EMPIRE COMFORT SYSTEMS

Mantis™

INSTALLATION INSTRUCTIONS

⚠ WARNING

HOT GLASS WILL CAUSE BURNS.
DO NOT TOUCH GLASS UNTIL COOLED.
NEVER ALLOW CHILDREN TO TOUCH GLASS.

NATIONAL FIREPLACE INSTITUTE® NFI CERTIFIED www.nficertified.org

We suggest that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists.

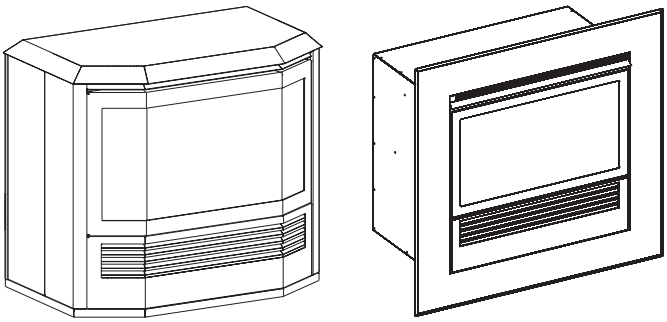
WARNING: If not installed, operated and maintained in accordance with the manufacturer's instructions, this product could expose you to substances in fuel or from fuel combustion which can cause death or serious illness.

Attention: Check local codes for venting requirements.

Installer: Leave this manual with the appliance.
Consumer: Retain this manual for future reference.

WARNING: If the information in these instructions are not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**
- **WHAT TO DO IF YOU SMELL GAS**
  - **Do not try to light any appliance.**
  - **Do not touch any electrical switch; do not use any phone in your building.**
  - **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
  - **If you cannot reach your gas supplier, call the fire department.**
- **Installation and service must be performed by a qualified installer, service agency or the gas supplier.**



POWER-VENT HIGH-EFFICIENCY FIREPLACE WITH

BAY WINDOW MANTIS MODELS
BF28(B,C,G)M(N,P)-4
BI28(B,C,G)M(N,P)-4
BP28(B,C,G)M(N,P)-4

FIREPLACE MANTIS MODELS
DESIGN CERTIFIED

FF28BM(N,P)-2
FI28BM(N,P)-2
FW28BM(N,P)-2

Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at risk individuals in the house. To restrict access to a fireplace or stove, install an adjustable safety gate to keep toddlers, young children and other at risk individuals out of the room and away from hot surfaces.

This appliance may be installed in an aftermarket, permanently located, manufactured home (USA only) or mobile home, where not prohibited by state or local codes.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

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IMPORTANT SAFETY INFORMATION

THIS IS A HEATING APPLIANCE

Safety markings are frequently used in this manual to designate a degree or level of seriousness and should not be ignored.

⚠ WARNING indicates a potentially hazardous situation that if not avoided, could result in personal injury or death.

⚠ CAUTION indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

⚠ WARNING

This appliance must be installed and repaired by a qualified service person who is familiar with the proper installation and operation of the Mantis Power-Vent High Efficiency Fireplace. Installers who are not familiar with the installation of the Mantis and have questions, should contact Empire Comfort Systems, Inc. prior to installing the appliance to avoid creating a hazardous operating condition.

- **Due to high temperatures the appliance should be located out of traffic and away from furniture and draperies.**
- **Children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns or clothing ignition.**
- **Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at risk individuals in the house. To restrict access to a fireplace or stove, install an adjustable safety gate to keep away toddlers, young children and other at risk individuals out of the room and away from hot surfaces.**
- **Clothing or other flammable material should not be placed on or near the appliance.**
- **Any safety screen or guard removed for servicing an appliance, must be replaced prior to operating the appliance.**
- **Keep burner and control compartment clean.**
- **For manufactured home (USA only) or mobile home or residential installation convertible for use with natural gas and liquefied petroleum gases when provision is made for the simple conversion from one gas to the other.**

⚠ WARNING

Installation and repair should be done by a QUALIFIED SERVICE PERSON. The appliance should be inspected before use and at least annually by a qualified service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding materials, etc. It is imperative that control compartments, burners and circulating air passageways of the appliance be kept clean.

- **DO NOT put anything around the heater that will obstruct the flow of combustion and ventilation air.**
- **DO keep the appliance area clear and free from combustible material, gasoline and other flammable vapors and liquids.**
- **Do examine venting system periodically and replace damaged parts.**
- **Do make a periodic visual check of burner. Clean and replace damaged parts.**
- **DO NOT use this heater if any part has been under water. Immediately call a qualified service technician to inspect the heater and to replace any part of the control system and any gas control which has been under water.**
- **DO NOT operate this appliance without the front panel installed.**

Note to the Installer

1. The installer must leave instruction manual with owner after installation.
2. The installer must have the owner fill out and mail registration card supplied with the heater.
3. The installer should show the owner how to start and operate heater and thermostat.
4. The installer must locate unit near a grounded wall receptacle for 115VAC power and must provide gas supply and vent the unit properly for safe operation.

SAFETY INFORMATION FOR USERS OF LP-GAS

LP-Gas (Propane) is a flammable gas which can cause fires and explosions. In its natural state, propane is odorless and colorless. You may not know all the following safety precautions which can protect both you and your family from an accident. Read them carefully now, then review them point by point with the members of your household. Someday, there may not be a minute to lose, everyone's safety will depend on knowing exactly what to do. If, after reading the following information, you feel you still need more information, please contact your gas supplier.

LP-GAS WARNING ODOR

If a gas leak happens, you should be able to smell the gas because of the odorant put in the LP-Gas. That's your signal to go into immediate action!

- Do not operate electric switches, light matches, use your phone. Do not do anything that could ignite the gas.
- Get everyone out of the building, vehicle, trailer, or area. Do that IMMEDIATELY.
- Close all gas tank or cylinder supply valves.
- LP-Gas is heavier than air and may settle in low areas such as basements. When you have reason to suspect a gas leak, keep out of basements and other low areas. Stay out until firefighters declare them to be safe.
- Use your neighbor's phone and call a trained LP-Gas service person and the fire department. Even though you may not continue to smell gas, do not turn on the gas again. Do not re-enter the building, vehicle, trailer, or area.
- Finally, let the service man and firefighters check for escaped gas. Have them air out the area before you return. Properly trained LP-Gas service people should repair the leak, then check and relight the gas appliance for you.

NO ODOR DETECTED - ODOR FADE

Some people cannot smell well. Some people cannot smell the odor of the chemical put into the gas. You must find out if you can smell the odorant in propane. Smoking can decrease your ability to smell. Being around an odor for a time can affect your sensitivity or ability to detect that odor. Sometimes other odors in the area mask the gas odor. People may not smell the gas odor or their minds are on something else. Thinking about smelling a gas odor can make it easier to smell.

The odorant in LP-gas is colorless, and it can fade under some circumstances. For example, if there is an underground leak, the movement of the gas through soil can filter the odorant. Odorants in LP-Gas also are subject to oxidation. This fading can occur if there is rust inside the storage tank or in iron gas pipes.

The odorant in escaped gas can adsorb or absorb onto or into walls, masonry and other materials and fabrics in a room. That will take some of the odorant out of the gas, reducing its odor intensity.

LP-Gas may stratify in a closed area, and the odor intensity could vary at different levels. Since it is heavier than air, there may be more odor at lower levels. Always be sensitive to the slightest gas odor. If you detect any odor, treat it as a serious leak. Immediately go into action as instructed earlier.

SOME POINTS TO REMEMBER

- Learn to recognize the odor of LP-gas. Your local LP-Gas Dealer can give you a "Scratch and Sniff" pamphlet. Use it to find out what the propane odor smells like. If you suspect that your LP-Gas has a weak or abnormal odor, call your LP-Gas Dealer.
- If you are not qualified, do not light pilot lights, perform service, or make adjustments to appliances on the LP-Gas system. If you are qualified, consciously think about the odor of LP-Gas prior to and while lighting pilot lights or performing service or making adjustments.
- Sometimes a basement or a closed-up house has a musty smell that can cover up the LP-Gas odor. Do not try to light pilot lights, perform service, or make adjustments in an area where the conditions are such that you may not detect the odor if there has been a leak of LP-Gas.
- Odor fade, due to oxidation by rust or adsorption on walls of new cylinders and tanks, is possible. Therefore, people should be particularly alert and careful when new tanks or cylinders are placed in service. Odor fade can occur in new tanks, or reinstalled old tanks, if they are filled and allowed to set too long before refilling. Cylinders and tanks which have been out of service for a time may develop internal rust which will cause odor fade. If such conditions are suspected to exist, a periodic sniff test of the gas is advisable. If you have any question about the gas odor, call your LP-gas dealer. A periodic sniff test of the LP-gas is a good safety measure under any condition.
- If, at any time, you do not smell the LP-Gas odorant and you think you should, assume you have a leak. Then take the same immediate action recommended above for the occasion when you do detect the odorized LP-Gas.
- If you experience a complete "gas out," (the container is under no vapor pressure), turn the tank valve off immediately. If the container valve is left on, the container may draw in some air through openings such as pilot light orifices. If this occurs, some new internal rusting could occur. If the valve is left open, then treat the container as a new tank. Always be sure your container is under vapor pressure by turning it off at the container before it goes completely empty or having it refilled before it is completely empty.

REQUIREMENTS FOR MASSACHUSETTS

For all side wall horizontally vented gas fueled equipment installed in every dwelling, building or structure used in whole or in part for residential purposes, including those owned or operated by the Commonwealth and where the side wall exhaust vent termination is less than seven (7) feet above finished grade in the area of the venting, including but not limited to decks and porches, the following requirements shall be satisfied:

1. INSTALLATION OF CARBON MONOXIDE DETECTORS.

   At the time of installation of the side wall horizontal vented gas fueled equipment, the installing plumber or gasfitter shall observe that a hard wired carbon monoxide detector with an alarm and battery back-up is installed on the floor level where the gas equipment is to be installed. In addition, the installing plumber or gasfitter shall observe that a battery operated or hard wired carbon monoxide detector with an alarm is installed on each additional level of the dwelling, building or structure served by the side wall horizontal vented gas fueled equipment. It shall be the responsibility of the property owner to secure the services of qualified licensed professionals for the installation of hard wired carbon monoxide detectors

   a. In the event that the side wall horizontally vented gas fueled equipment is installed in a crawl space or an attic, the hard wired carbon monoxide detector with alarm and battery back-up may be installed on the next adjacent floor level.
   b. In the event that the requirements of this subdivision can not be met at the time of completion of installation, the owner shall have a period of thirty (30) days to comply with the above requirements; provided, however, that during said thirty (30) day period, a battery operated carbon monoxide detector with an alarm shall be installed.

2. APPROVED CARBON MONOXIDE DETECTORS. Each carbon monoxide detector as required in accordance with the above provisions shall comply with NFPA 720 and be ANSI/UL 2034 listed and IAS certified.

3. SIGNAGE. A metal or plastic identification plate shall be permanently mounted to the exterior of the building at a minimum height of eight (8) feet above grade directly in line with the exhaust vent terminal for the horizontally vented gas fueled heating appliance or equipment. The sign shall read, in print size no less than one-half (1/2) inch in size, **"GAS VENT DIRECTLY BELOW. KEEP CLEAR OF ALL OBSTRUCTIONS".**

4. INSPECTION. The state or local gas inspector of the side wall horizontally vented gas fueled equipment shall not approve the installation unless, upon inspection, the inspector observes carbon monoxide detectors and signage installed in accordance with the provisions of 248 CMR 5.08(2)(a) 1 through 4.

   (b) EXEMPTIONS: The following equipment is exempt from 248 CMR 5.08(2)(a)1 through 4:
      1. The equipment listed in Chapter 10 entitled "Equipment Not Required To Be Vented" in the most current edition of NFPA 54 as adopted by the Board; and
      2. Product Approved side wall horizontally vented gas fueled equipment installed in a room or structure separate from the dwelling, building or structure used in whole or in part for residential purposes.

   (d) MANUFACTURER REQUIREMENTS - GAS EQUIPMENT VENTING SYSTEM NOT PROVIDED. When the manufacturer of a Product Approved side wall horizontally vented gas fueled equipment does not provide the parts for venting the flue gases, but identifies "special venting systems", the following requirements shall be satisfied by the manufacturer:
      1. The referenced "special venting system" instructions shall be included with the appliance or equipment installation instructions; and
      2. The "special venting systems" shall be Product Approved by the Board, and the instructions for that system shall include a parts list and detailed installation instruction.

   (e) A copy of all installation instructions for all Product Approved side wall horizontally vented gas fueled equipment, all venting instructions, all parts lists for venting instructions, and/or all venting design instructions shall remain with the appliance or equipment at the completion of the installation.

Sate of Massachusetts: The installation must be made by a licensed plumber or gas fitter in the Commonwealth of Massachusetts.

INTRODUCTION

⚠ WARNING

The safety information listed below must be followed during the installation, service, and operation of this product. Failure to following the safety recommendations could result in possible damage to the equipment, serious personal injury, or death.

Additional code information listed below is for reference purposes only and does not necessarily have jurisdiction over local or state codes. Always consult with local authorities before installing any gas appliance.

Combustion and Ventilation Air
U.S.: National Fuel Gas Code NFPA 54/ANSI Z223.1 (NFGC), Air for Combustion and Ventilation.

Electrical Connections
U.S.: National Electrical Code (NEC) ANSI/NFPA 70

Gas Piping and Gas Pipe Pressure Testing
U.S.: NFGC and National Plumbing Codes

General Installations
U.S.: Current edition of the NFGC and NFPA 90B. For copies contact the National Fire Protection Association Inc., Batterymarch Park, Quincy, MA 02269 or American Gas Association, 400 N. Capitol, N.W., Washington DC 20001 or www.NFPA.org.

Safety
U.S.: NFGC NFPA 5/ANSI Z223.1

SPECIFICATIONS & ACCESSORIES

Fireplace Mantis Models	F(F,I,W)28BM(N,P)
Input BTU/HR (KW/H)	15,000 Rear - 13,000 Front
Height	24-9/16”
Width	28”
Depth	17-3/16”
Gas Inlet (Pipe)	3/8” Flair
Electrical - The unit comes equipped with a 5 foot (1.5 m) 3 pronged cord, for connection to an approved 115 VAC, 60 Hz, 5A (maximum) wall receptacle.	
Vent Pipe: - 1-1/2 inch diameter schedule 40 PVC pipe, 40 feet maximum equivalent length.	

Bay Window Mantis Models	B(F,I,P)28(B,C,G)M(N,P)
Input BTU/HR (KW/H)	19,000 Rear - 9,000 Front
Height	25-1/4”
Width	28”
Depth	17-5/8”
Gas Inlet (Pipe)	3/8” Flair
Electrical - The unit comes equipped with a 5 foot (1.5 m) 3 pronged cord, for connection to an approved 115 VAC, 60 Hz , 5A (maximum) wall receptacle.	
Vent Pipe: - 1-1/2 inch diameter schedule 40 PVC pipe, 40 feet maximum equivalent length.	

ACCESSORIES	
Common	
Part Number	**Description**
FRBTC	Battery Operated Remote with Thermostat
FRBTP	Battery Operated Remote with Programmable Thermostat
PVCA	Colinear Adapter
PVCT	Colinear Transition Kit
PVVK-CFA	Flex Vent Kit
PVVK-SH	Single Flue Horizontal Vent Kit
PVVK-SV	Single Flue Vertical Vent Kit
PVVTC	Vertical Termination Cap - 1-1/2”
T24V	24 Volt Thermostat
TMV2	Two-Stage Thermostats
TDV1	Wall Thermostat - Wireless Remote
PVVK24H	Coaxial Horizontal Direct Vent Kit (24”)
PVVK48H	Coaxial Horizontal Direct Vent Kit (48”)
TRW	Wall Thermostat - Wireless Remote
Bay Window Mantis	
CIFPB-1C	Corner Floor Pad Kit
CIPFP-1	Floor Pad Kit
PV-2H	Slim Top Cover Kit
PV-4H	Short Top Cover Kit
PVE-1	Metal Surround Kit, 35”
PVE-2	Metal Surround Kit, 38”
PVPK	Pedestal Kit
PVSH	Rear Shroud
Fireplace Mantis	
FWK28(BL,CM,HP,SS)	In-Wall Surround Kit, Picture Frame
FGK28(BL,SS)	In-Wall Surround Kit, Louverless
FIK28(BL,CM,HP,SS)	Insert Package
FFK28(BL,CM,HP,SS)	Fireplace Mantel Surround Kit

INSTALLATION AND GENERAL SAFETY INFORMATION

General Information
This series is designed certified in accordance with American National Standard/CSA Standard Z21.88 as a Gas Fireplace Heater to be installed according to these instructions.

Any alteration of the original design, installed other than as shown in these instructions will be the responsibility of the person and company making the changes, and will void the warranty. This product may not be used with any type of gas other than what is shown on the rating plate.

Important
All Correspondence should refer to complete Model Number, Serial Number and type of gas.

Installation
Installation, replacement, gas piping, gas utilization equipment or accessories, and the repair and service of this equipment must be performed by a qualified agency. The term "qualified agency" means any individual, firm, corporation or company which either in person or through a representative is engaged in and is responsible for (a) the installation or replacement of gas piping or (b) the connection, installation, repair or servicing of equipment, who is experienced in such work, familiar with all precautions required and has complied with all the requirements of the authority having jurisdiction.

- This installation must conform with local codes, or in the absence of local codes, the National Fuel Gas Code, NFPA 54/ANSI Z223.1.
- This appliance, when installed, must be electrically grounded in accordance with local codes or. In the absence of local codes, with the National Electrical Code, ANSI/NFPA 70.
- Provide adequate clearances around the heater for servicing and ensure there are no obstructions to the combustion air intake situated at the back of the heater. Refer to Pages 16 to 19.
- The Mantis Power-Vent High-Efficiency Fireplace must be installed on a flat, solid continuous surface (i.e. wood, metal, concrete). Rough or uneven surfaces can cause vibration or humming in the heater.
- This appliance does need to be installed in such a way where the heater can be removed for servicing the heat exchanger and the flue that are located in the rear section of the heater.
- **This appliance is equipped with a three-prong [grounding] plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.** For an ungrounded receptacle, purchase an adapter with two prongs and a wire for grounding.

Note: Under no circumstances should the appliance be installed under conditions that would not allow for easy removal of the appliance to carry out routine inspection and service to the appliance.

Note: Where a mantel surround is being used on insert installations and zero clearance fireplace installations, the combustion air intake slot located in the top mantel surround must not be obstructed. This will allow combustion air to enter through the slot to the combustion air inlet located at the back of the heater.

Note: During initial firing of this unit, residual oil from the heat exchanger may bake off and smoke may occur. Provide adequate ventilation to the area where the heater is installed to prevent triggering of smoke alarms. Refer to page 31 for more detail.

A manufactured home (USA only) or mobile home OEM installation must conform with the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280, or when such a standard is not applicable, the Standard for Manufactured Home Installations, ANSI/NCSBCS Z225.1, or Standard for Gas Equipped Recreational Vehicles and Mobile Housing, CSA Z240.0.

Installation on Combustible Flooring
If this appliance is to be installed directly on carpeting, tile, or other combustible material, other than wood flooring, the appliance shall be installed on a metal or wood panel extending the full width and depth of the appliance.

The base referred to above does not mean the fire-proof base as used on wood stoves. The protection is primarily for rugs that may be extremely thick and light-color tile that can discolor.

Installation in Residential Garages
Gas utilization equipment in residential garages shall be installed so that all burners and burner ignition devices are located not less than 18 inches (457 mm) above the floor. The equipment shall be located, or protected, so it is not subject to physical damage by vehicles.

Operation of Heater During Construction
The heater shall not be used during construction.

⚠ WARNING

Do not operate appliance with the glass front removed, or if it is cracked or broken. Replacement of the glass shall be performed by a licensed or qualified service person

GAS SUPPLY

All gas piping must be installed in compliance with local codes and utility regulations. In the absence of local codes the installation must comply with NFCG NFPA 54/ANSI Z223.1.

Note: Never use plastic pipe. Check to confirm whether your local codes allow copper tubing or galvanized.

Where permittted, flexible gas connectors must be certified to the following standards:

— ANS Z21.24 Appliance Connectors of Corrugated Metal Tubing and Fittings

— ANS Z21.45 Assembled Flexible Appliance Connectors of Other Than All-Metal Construction

The above connectors may be used if acceptable by the uthority having jurisdiction. The state of Massachusetts requires that a flexible appliance connector cannot exceed three feet in length.

A drip leg should be installed in the vertical gas supply pipe run to the unit.

Manual Shut-off Valve

Some local regulations require the installation of a manual shut-off valve and ground joint union external to the appliance. The shutoff should be accessible for service and/or emergency use. Consult the local utility or gas supplier for additional requirements regarding the placement of the manual shut off valve. Compounds used on threaded joints of gas piping shall be resistant to the action of liquefied petroleum gases.

Leak Testing

⚠ WARNING - FIRE OR EXPLOSION HAZARD

Never test for leaks with an open flame. Check all connections using a commercially available soap solution. A fire or explosion may result causing property damage, personal injury or loss of life. Failure to follow the safety warnings exactly could result in serious injury, death or property damage.

After gas piping to the heater is complete, all connections must be tested for gas leaks. This includes pipe connections at the main gas valve, emergency shutoff valve and flexible gas connectors (if applicable). The soap and water solution can be applied on each joint or union using a small paintbrush. If any bubbling is observed, the connection is not sealed adequately and must be retightened. Repeat the tightening and soap check process until the bubbling ceases.

Important Note:

When pressure testing the gas supply lines at pressures greater than ½ psig (14 in. w.c.), the gas supply piping system must be disconnected from the appliance to prevent damage to the gas control valve. If the test pressure is less than or equal to ½ psig (14 in. w.c.), close the manual shut-off valve.

Pressure Testing of the Gas Supply System

1. To check the inlet pressure to the gas valve, a 1/8 inch N.P.T. plugged tapping, accessible for test gauge connection, must be placed immediately upstream of the gas supply connection to the appliance.
2. The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig.
3. The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig.

Recommended Gas Pipe Diameter

Pipe Length	Schedule 40 Pipe Inside Diameter In Inches		Tubing, Type L Outside Diameter In Inches	
	Nat.	L.P.	Nat.	L.P.
0-10 feet	1/2	3/8	1/2	3/8
10-40 feet	1/2	1/2	5/8	1/2
40-100 feet	1/2	1/2	3/4	1/2
100-150 feet	3/4	1/2	7/8	3/4

VENT CLEARANCES

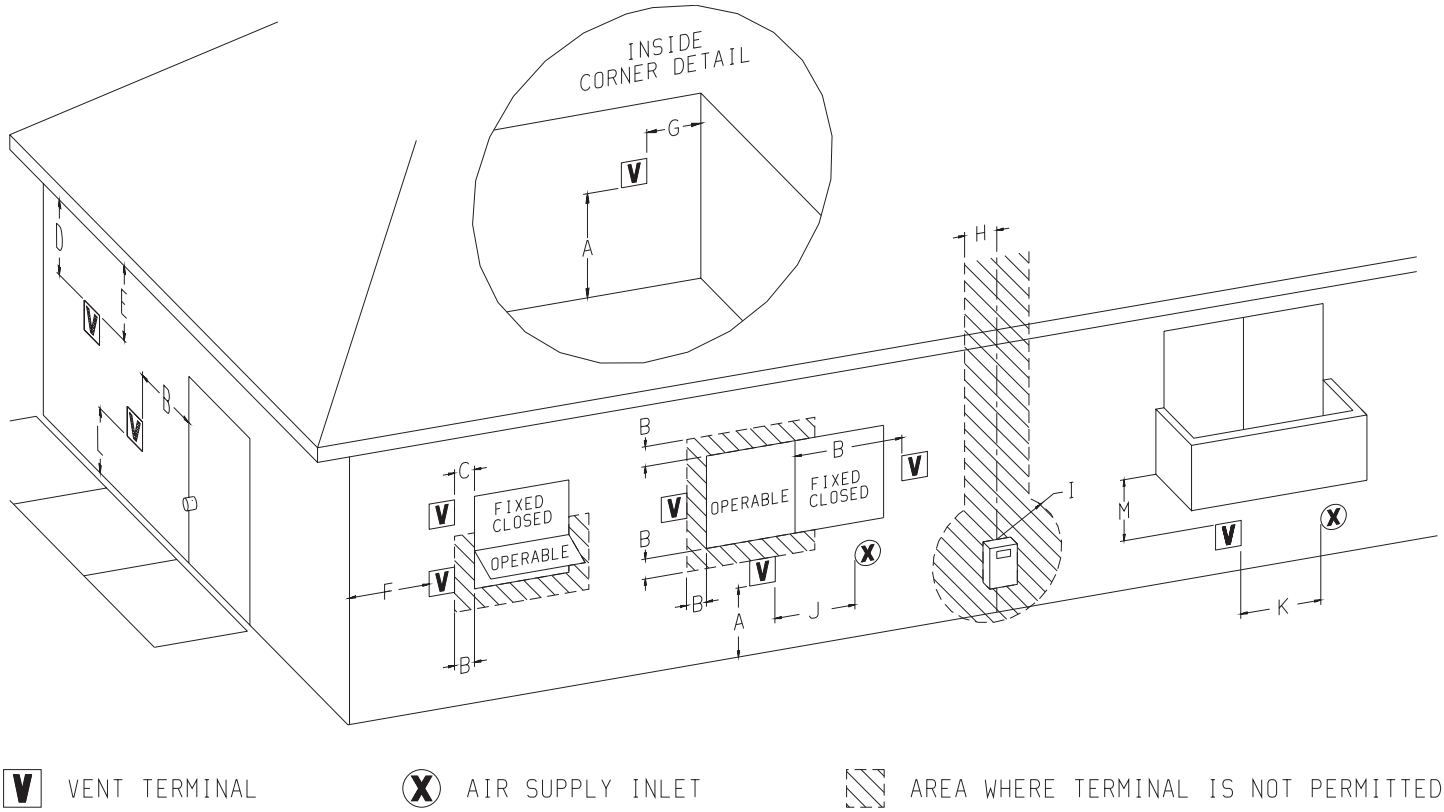


Figure 1

US Installation [1]

A =	Clearance above any grade, veranda, porch or balcony	12 in (30 cm)
B =	Clearance to window or door that may be opened	6 in (15 cm) for appliances ≤ 10,000 Btu/h (3 kW), 9 in (23 cm) for appliances > 10,000 Btu/h (3 kW) and ≤ 50,000 Btu/h (15 kW), 12 in (30 cm) for appliances > 50,000 Btu/h (15 kW)
C =	Clearance to permanently closed windows	*
D =	Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 ft (61 mm) from the center line of the terminal	*
E =	Clearance to unventilated soffit	*
F =	Clearance of outside corner	*
G =	Clearance of inside corner	*
H =	Clearance to each side of center line extended above meter/regulator assembly	*
I =	Clearance to service regulator vent outlet	*
J =	Clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance	6 in (15 cm) for appliances ≤ 10,000 Btu/h (3 kW), 9 in (23 cm) for appliances > 10,000 Btu/h (3 kW) and ≤ 50,000 Btu/h (15 kW), 12 in (30 cm) for appliances > 50,000 Btu/h (15 kW)
K =	Clearance to a mechanical air supply inlet	3 ft (91 cm) above if within 10 ft (3 m) horizontally
L =	Clearance above paved sidewalk or paved driveway located on public property †	*
M =	Clearance under veranda, porch deck, or balcony ¥	*

[1] In accordance with the current ANSI Z223.1/NFPA 54, National Fuel Gas Code

† A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

¥ Permitted only if veranda, porch, deck or balcony is fully open on a minimum of two sides beneath the floor.

* For clearances not specified in ANSI Z223.1/NFPA 54 or CSA B149.1, refer to local codes.

VENTING REQUIREMENTS

⚠ WARNING

This appliance must not be vented with any other appliances, even if that appliance is of the condensing type. Common venting can result in severe corrosion of other appliances or their venting and can allow combustion gases to escape through such appliances or vents. Do not vent the heater into a fireplace chimney or building chase.

⚠ WARNING

Upon completion of the installation, carefully inspect the entire flue system to assure it is properly sealed. DO NOT use any vent material other than what is specified in this manual. Leaks in the flue system can result in serious personal injury or death due to exposure of flue products, including carbon monoxide.

The Mantis is classified as a "Category IV" appliance, which requires special venting materials and installation procedures. Installations can be Conventional (1-pipe) and Direct Vent (2-pipe). Venting must be completed with 1-1/2 inch diameter pipe. In selecting a location for installation, it is necessary to provide adequate clearances for servicing and proper installation.
All vent and combustion air pipes and fittings must be Schedule 40 PVC and meet the ANSI/ASTM Standard D1785. Cement must conform to ASTM Standard D2564.

Maximum Vent Length is 40 feet. The minimum vent length is 12 inches. Each 90° elbow used in the vent system will be the equivalent to 3 feet, and each 45° elbow is equivalent to 1.5 feet, which should be added to the overall vent length. **See Table 1.**

It is recommended that the Mantis Power-Vent High-Efficiency Fireplace be located on an exterior wall for ease of venting. The flue exhaust pipe and inlet air pipe should be located between wall studs. The required opening for venting is 1-7/8 inch in diameter for 1-1/2 inch PVC pipe.

The minimum distance from the center of the vent cap to the nearest outside corner or obstruction is 12 inches. The flue outlet must be at least 12 inches from any opening which flue gases could enter the building. See Figure 1. The flue outlet must be a minimum distance of 6 feet from any pressure regulator.

The bottom of the exhaust vent terminal and the air intake shall be located at least 12 inches above grade and must be vented outside. It is recommended the exhaust and intake be located 12 inches from the maximum snow level.

The flue pipe must be supported on horizontal vent runs. The flue pipe needs to be supported every 3 feet. All horizontal runs of the flue must be pitched ¼ inch per foot either towards the heater or away from the heater. The minimum vent length protruding from outside the wall is 6 inches. For two-pipe installation, a minimum distance of 3 inches and maximum distance of 24 inches must be maintained between the pipes. See Figure 2.

Single flue (one-pipe) installations must have a minimum clearance of 2 inches on the back of the heater for combustion air.

Vent Freezing Protection
When the vent pipe is exposed to temperatures below freezing (i.e. when it passes through unheated spaces, chimneys, etc.) the pipe must be insulated with 1/2 inch thick sponge rubber insulation, Armaflex-type insulation or equivalent. Insulating pipe is important to avoid condensate icing.
For proper operation, the flue exhaust must extend 6 inches from the outside wall before applying an elbow.

Note: If vent length requirements are not followed, the unit will not operate properly.

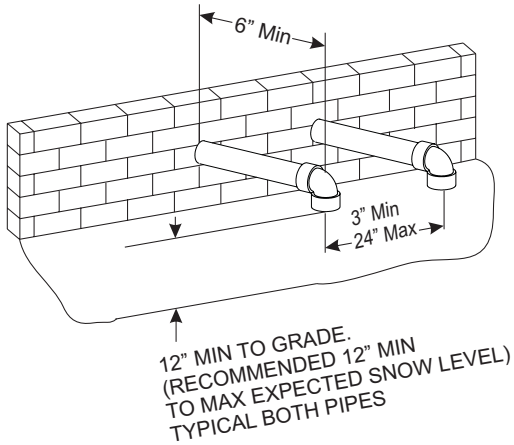


Figure 2

Table 1 - Equivalent Vent Length Example														
EVL = Equivalent Vent Length														
EVL must be greater than or equal to 1' **and** less than or equal to 40'														
EVL	=	90º elbow	+	4' straight pipe	+	45º elbow	+	2' straight pipe	+	45º elbow	+	3' straight pipe	=	15'
EVL	=	3' (90º elbow)	+	4' (straight pipe)	+	1.5' (45º elbow)	+	2' (straight pipe)	+	1.5' (45º elbow)	+	3' (straight pipe)	=	15'

VENT EXAMPLES FOR SINGLE FLUE

Figure 3 displays a single flue (one-pipe) installation. Because the distance from the heater to the first elbow is more than 6 inches, the first 90° elbow does need to be considered into the total vent length. The equivalent length of the second 90° elbow also needs to be added to the total length, but the third elbow does not since it is the flue terminal. The total horizontal vent length of the flue system is 7 feet, and the total vertical length is 27 feet. The two 90° elbows are equivalent to 6 feet, bringing the total to 40 feet.

Figure 4 is an example of how the heater can be vented if the flue outlet is below the level of the floor.

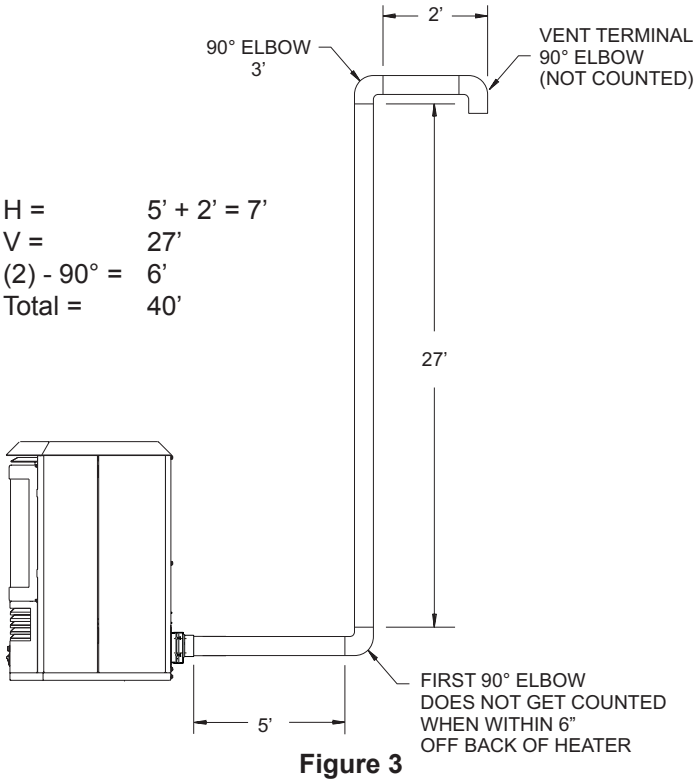


Figure 3
Single Flue - Horizontal Tall Vent Run
Example Calculation Max Vent Run 40 feet

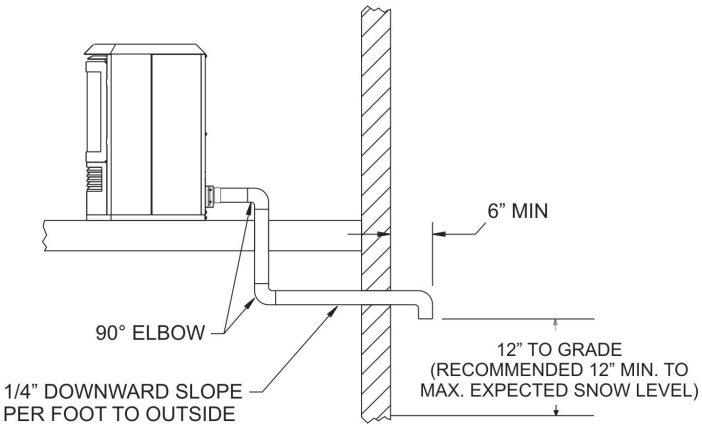


Figure 4
Minimum Exterior Grade Dimension - Single Flue, Horizontal Venting Below Floor

DIRECT VENT AND COLINEAR VENT EXAMPLES

Figure 5 displays a two-pipe installation. Because the distance from the heater to the first elbow is more than 6 inches, the first 90° elbow does need to be considered into the total vent length. The equivalent length of the second 90° elbow also needs to be added to the total length. The third elbow also needs to be included. The equivalent length of the PTrap does not need to be added since it is the termination. The total horizontal vent length of the flue system is 11 feet, and the total vertical length is 20 feet. The three 90° elbows are equivalent to 9 feet, bringing the total to 40 feet.

Note: The exhaust must be a minimum of 3 inches above the inlet air pipe. The flue must be at least 12 inches from the roof line, and it is recommended to be at least 12 inches above the maximum expected snow level as indicated in Figures 5 through 8.

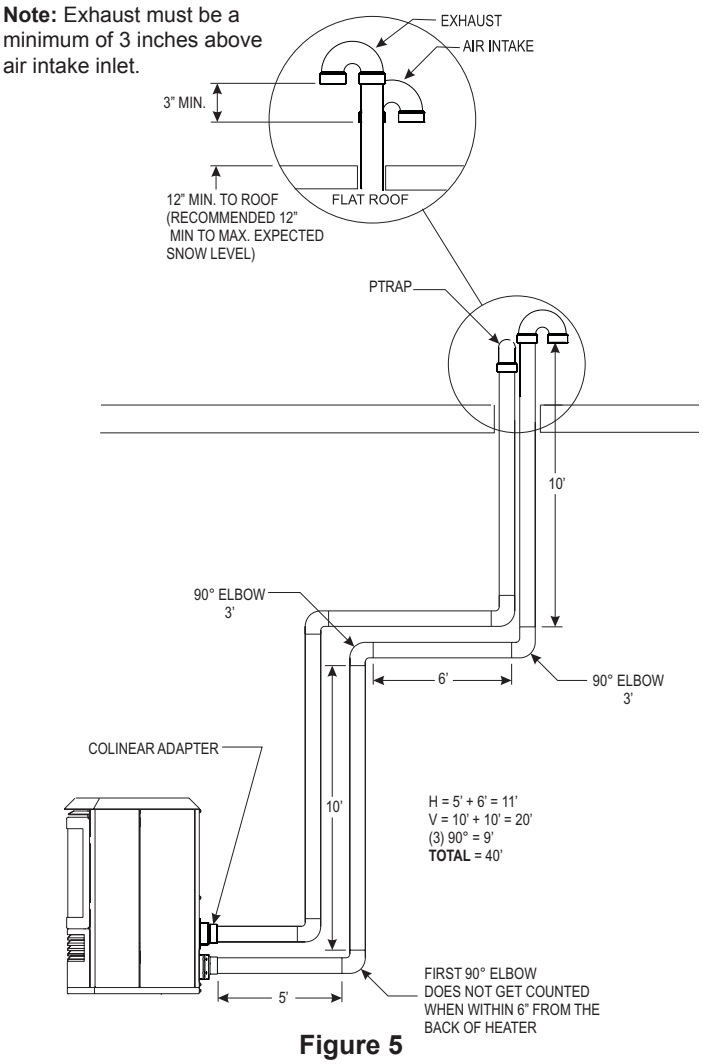

Note: Exhaust must be a minimum of 3 inches above air intake inlet.
EXHAUST
AIR INTAKE
3" MIN.
12" MIN. TO ROOF (RECOMMENDED 12" MIN TO MAX. EXPECTED SNOW LEVEL)
FLAT ROOF
PTRAP
10'
90° ELBOW 3'
6'
90° ELBOW 3'
COLINEAR ADAPTER
10'
H = 5' + 6' = 11'
V = 10' + 10' = 20'
(3) 90° = 9'
TOTAL = 40'
5'
FIRST 90° ELBOW DOES NOT GET COUNTED WHEN WITHIN 6" FROM THE BACK OF HEATER

Figure 5
Calculation example of vent run maximum 40 feet

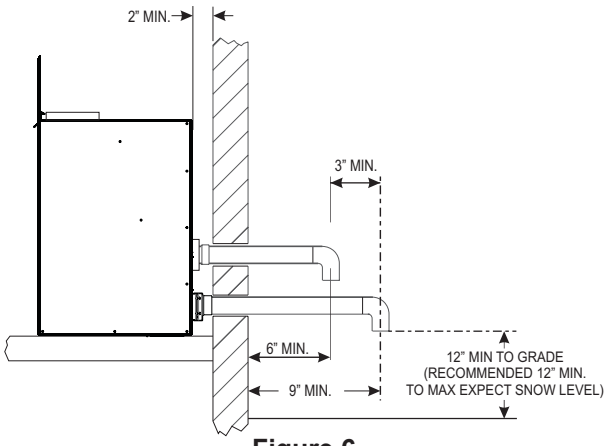


Figure 6

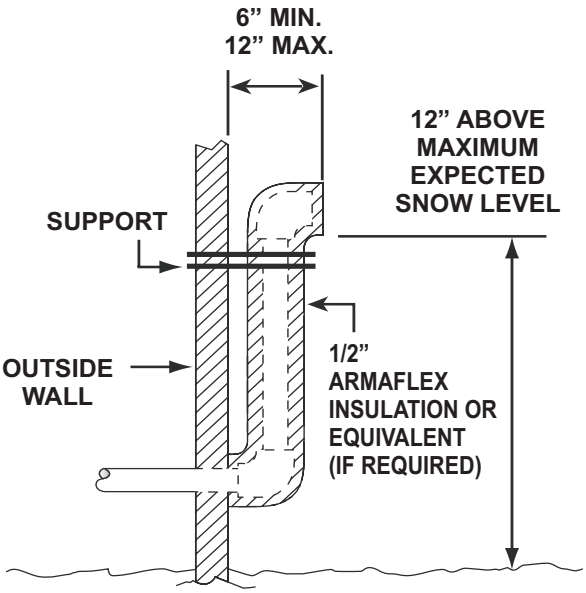


Figure 7

DIRECT VENT AND COLINEAR VENT EXAMPLES

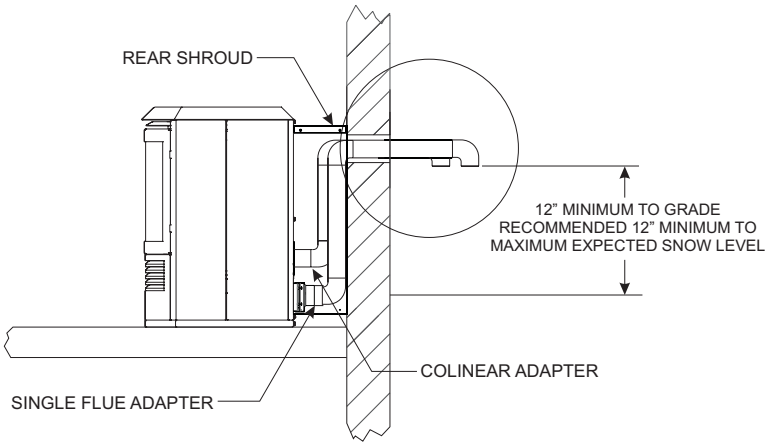


Figure 8

In direct vent applications, a minimum distance between the two pipes is 3 inches and the maximum distance is 24 inches. The flue exhaust and air inlet can be terminated with either a PTrap or two 90° elbows as shown in Figures 9,12 and 13. The Vertical Termination Cap (Part number PVVTC) can also be used.

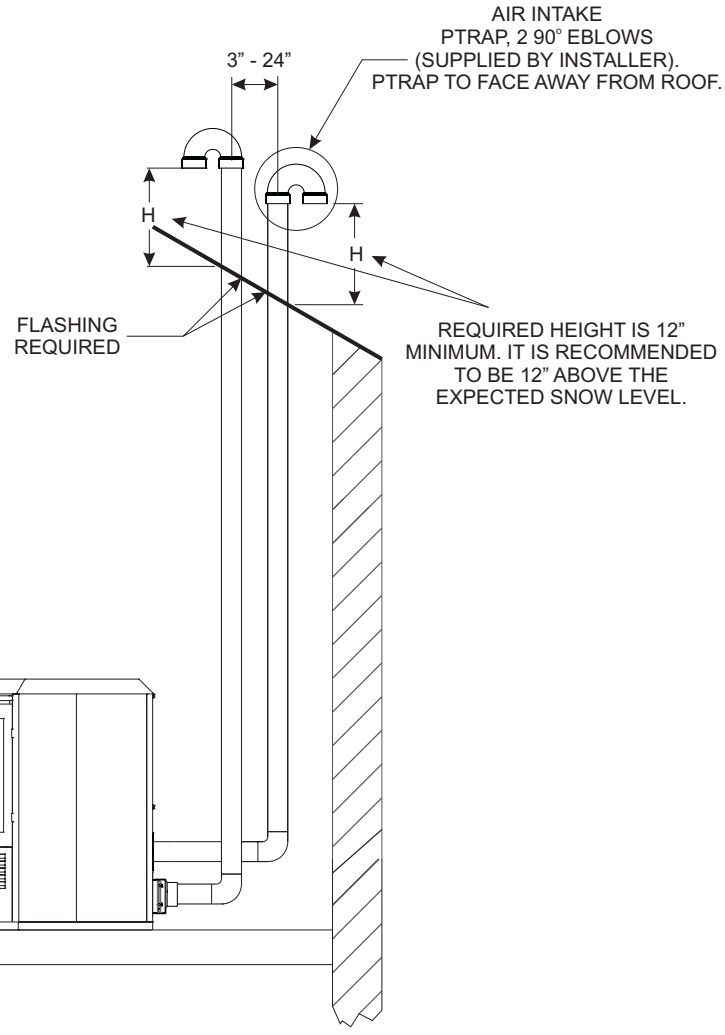


Figure 9

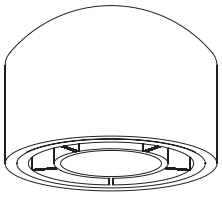


Figure 10 - PVVTC Vertical Termination Cap

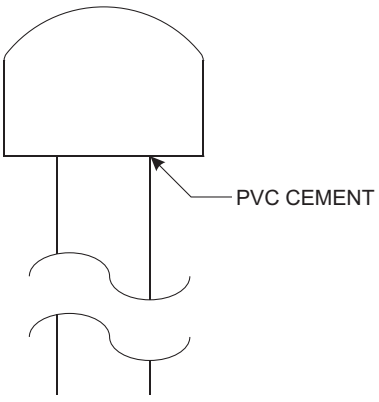


Figure 11

Vertical termination cap used with 1-1/2 inch PVC pipe installation.
Cap also used with colinear transition plate.

COLINEAR TRANSITION VENT KIT

The Colinear Transition Kit (Part number PVCT) is available and can be used to secure the flue and inlet pipes from the Mantis. When venting vertically, the exhaust pipe termination must be a minimum of 3 inches above the air inlet.

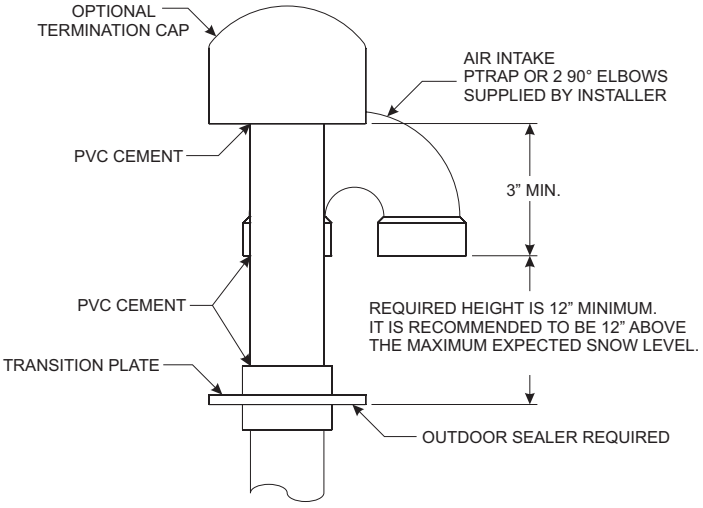


Figure 12

The flue can be terminated with a PTrap or two 90° elbows. The Vertical Termination Cap (Part number PVVTC) can also be used to terminate the flue pipe when using the Colinear Transition Kit.

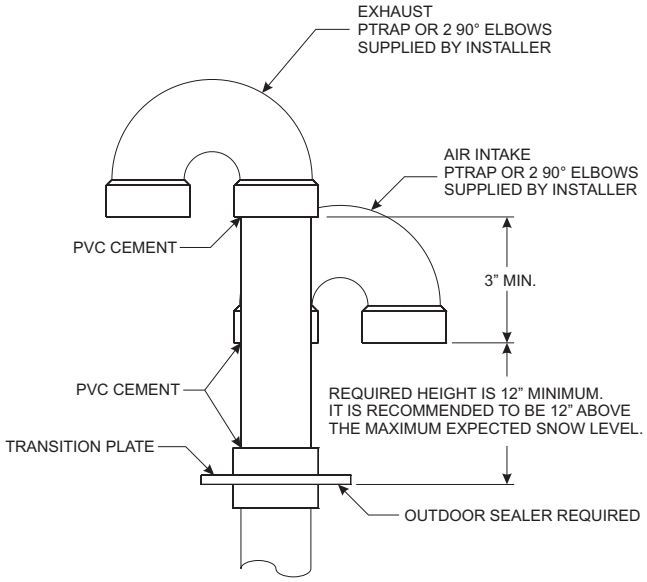


Figure 13

Installation of the Colinear Transition Plate

1. Attach the plate to chimney chase, flat roof, or outside wall with four (4) screws. Use outdoor sealant to seal the transition plate to the surface.
2. Both inlet air pipe and flue exhaust pipe must be 12 inches from the roof line, and it is recommended to be 12 inches above the maximum snow line. Also refer to local codes. See Figures 12 and 13.
3. Attach the flue and inlet air pipes to the transition plate. Use the appropriate primer and cement to permanently bond the joints and the pipes to the transition plate.

VENT ADAPTOR KITS

The Vent Adaptor Kits provide a transition from the appliance to the flue and inlet pipes. Colinear Adaptor (part number PVCA) provides a transition for the inlet air. When using the flue adapter, use the appropriate primer and cement to permanently bond the joints and the pipes. The inlet air pipe does not need to be cemented.

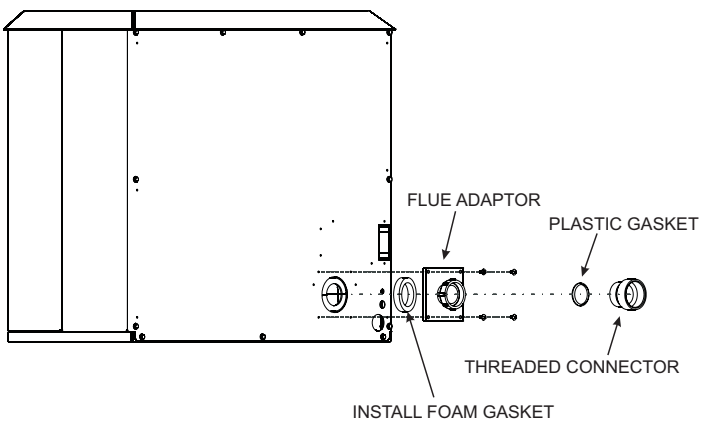


Figure 14

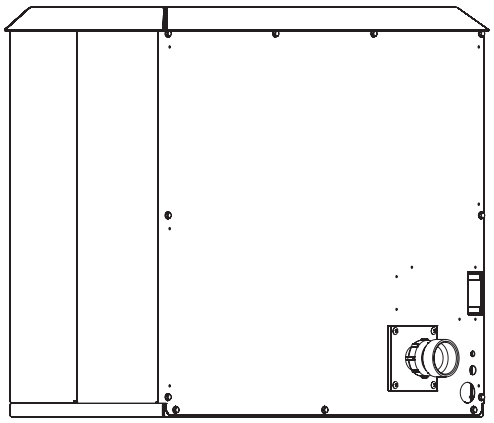


Figure 15

ROUGH FRAMING DIMENSIONS

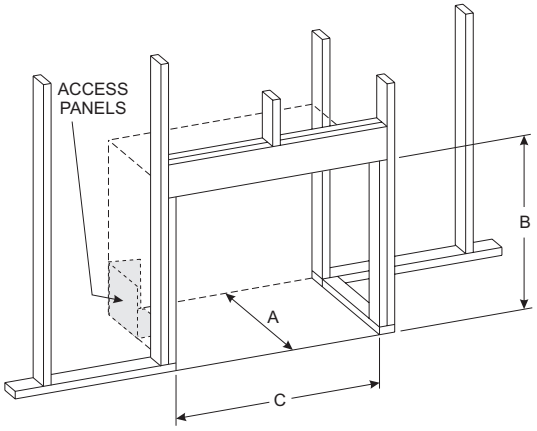


Figure 16

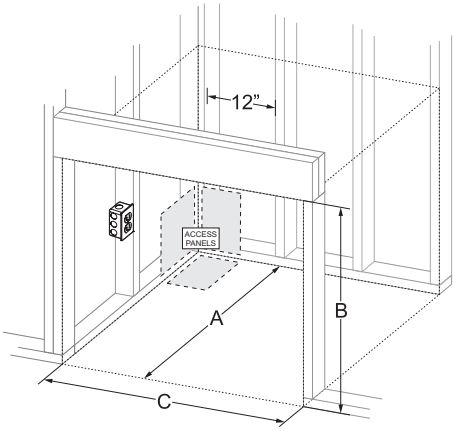


Figure 17

		Single Vent	Direct Vent and Colinear Vent	Coaxial Vent	Flex Vent
Bay Window Mantis with PV-4H Short Top Cover Kit	A	8-1/2" minimum*	8-1/2" minimum*	7-3/4" minimum	12-3/4" minimum
	B	25-1/4" minimum 27" maximum when using PVE-1 or PVE-2 Surround Kits			
	C	28-1/2" minimum, 33" minimum recommended for service 34-1/2" maximum when using PVE-1 Surround Kit 37" maximum when using PVE-2 Surround Kit			

* When using a 90° elbow on the flue exhaust.

		Single Vent	Direct Vent and Colinear Vent	Coaxial Vent	Flex Vent
Bay Window Mantis with PV-2H Slim Top Cover Kit	A	13-1/2" minimum*	13-1/2" minimum*	12-5/8" minimum	17-7/8" minimum
	B	25-1/4" minimum 27" maximum when using PVE-1 or PVE-2 Surround Kits			
	C	28-1/2" minimum, 33" minimum recommended for service 34-1/2" maximum when using PVE-1 Surround Kit 37" maximum when using PVE-2 Surround Kit			

* When using a 90° elbow on the flue exhaust.

		Single Vent	Direct Vent and Colinear Vent	Coaxial Vent	Flex Vent
Fireplace Mantis	A	19-1/2" minimum*	19-1/2" minimum*	18-1/2" minimum	23-3/4" minimum
	B	25" minimum 27-3/4" maximum when using FGK28 Surround Kit 28-1/2" maximum when using FFK28 Surround Kit 29-1/2" maximum when using FIK28 Surround Kit 32" maximum when using FWK28 Surround Kit			
	C	28-1/2" minimum, 31" recommended for service 33" maximum when using FGK28 Surround Kit 34" maximum when using FFK28 Surround Kit 37" maximum when using FIK28 Surround Kit 34" maximum when using FWK28 Surround Kit			

* When using a 90° elbow on the flue exhaust.

INSERT INTO MASONRY FIREPLACE

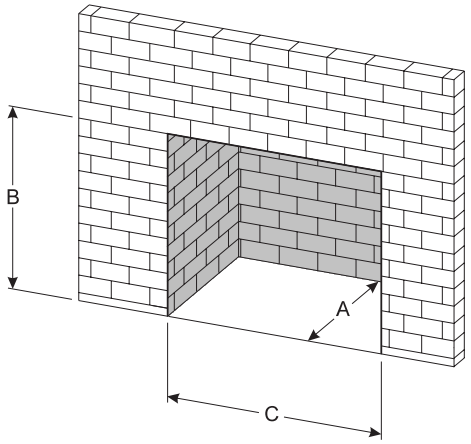


Figure 18

		Single Vent	Direct Vent and Colinear Vent	Flex Vent
Bay Window Mantis with PV-4H Short Top Cover Kit	A	8-1/2” minimum*	8-1/2” minimum*	12-3/4” minimum
	B	25-1/4” minimum 27” maximum when using PVE-1 or PVE-2 Surround Kits		
	C	28-1/2” minimum, 33” minimum recommended for service 34-1/2” maximum when using PVE-1 Surround Kit 37” maximum when using PVE-2 Surround Kit		

* When using a 90° elbow on the flue exhaust.

		Single Vent	Direct Vent and Colinear Vent	Flex Vent
Bay Window Mantis with PV-4H Slim Top Cover Kit	A	13-1/2” minimum*	13-1/2” minimum*	17-7/8” minimum
	B	25-1/4” minimum 27” maximum when using PVE-1 or PVE-2 Surround Kits		
	C	28-1/2” minimum, 33” minimum recommended for service 34-1/2” maximum when using PVE-1 Surround Kit 37” maximum when using PVE-2 Surround Kit		

* When using a 90° elbow on the flue exhaust.

		Single Vent	Direct Vent and Colinear Vent	Flex Vent
Fireplace Mantis	A	19-1/2” minimum*	19-1/2” minimum*	23-3/4” minimum
	B	25” minimum 27-3/4” maximum when using FGK28 Surround Kit 28-1/2” maximum when using FFK28 Surround Kit 29-1/2” maximum when using FIK28 Surround Kit 32” maximum when using FWK28 Surround Kit		
	C	28-1/2” minimum, 31” recommended for service 33” maximum when using FGK28 Surround Kit 34” maximum when using FFK28 Surround Kit 37” maximum when using FIK28 Surround Kit 34” maximum when using FWK28 Surround Kit		

* When using a 90° elbow on the flue exhaust.

BAY WINDOW MANTIS CLEARANCE TO COMBUSTIBLES

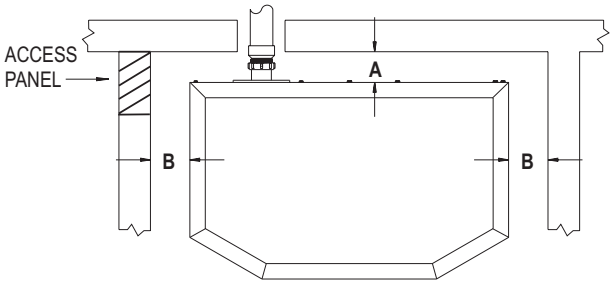


Figure 19

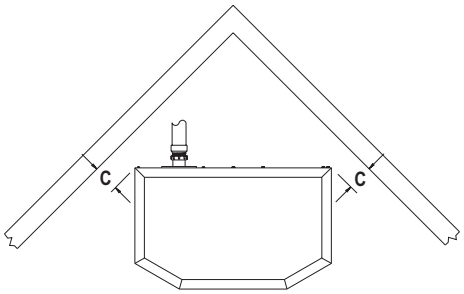
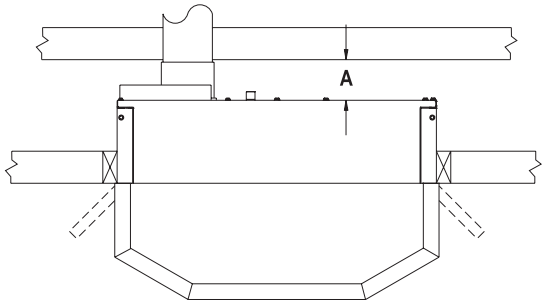
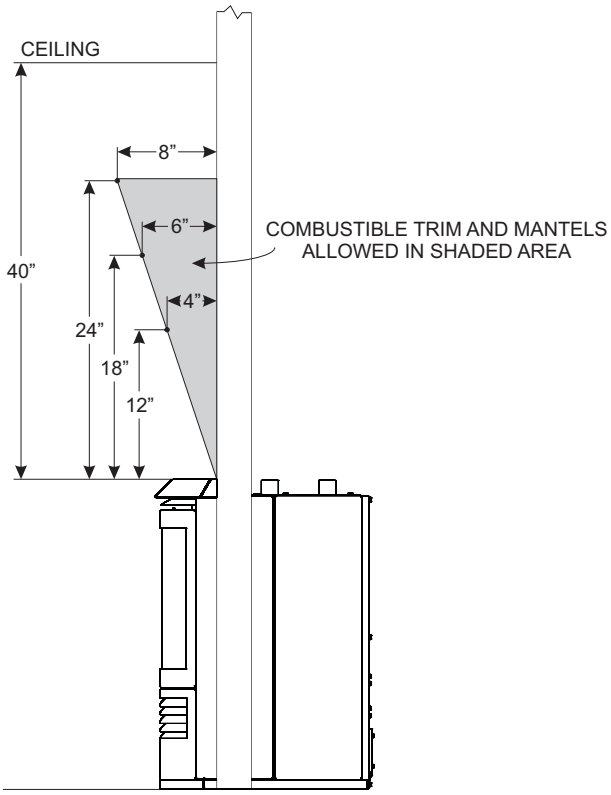


Figure 20

Freestanding Clearances		
A	Rear Wall to Heater	2” (1-1/4” for coaxial venting)
B	Side Wall to Heater	0” (4” recommended for door clearance)
C	Corner Installation	0”



Coaxial Venting Installation Shown
Single Flue requires surround for combustion air.
Figure 21



Mantel and Ceiling Clearances
Figure 22

Note: The Mantis Power-Vent High-Efficiency Fireplace has been tested and approved for zero clearance to combustible materials. It is recommended that clearances as listed above should be maintained to allow for removal of the product for servicing.

FIREPLACE MANTIS CLEARANCE TO COMBUSTIBLES

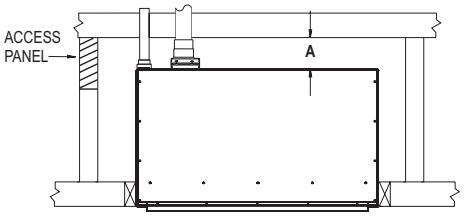


Figure 23

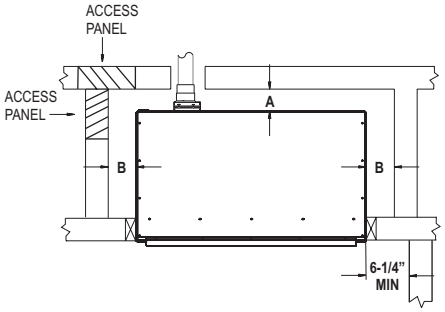


Figure 24

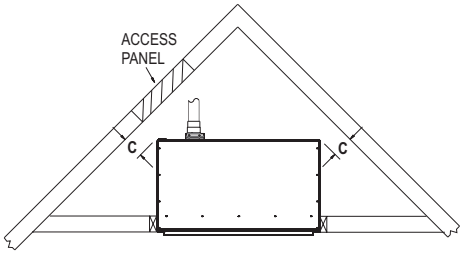
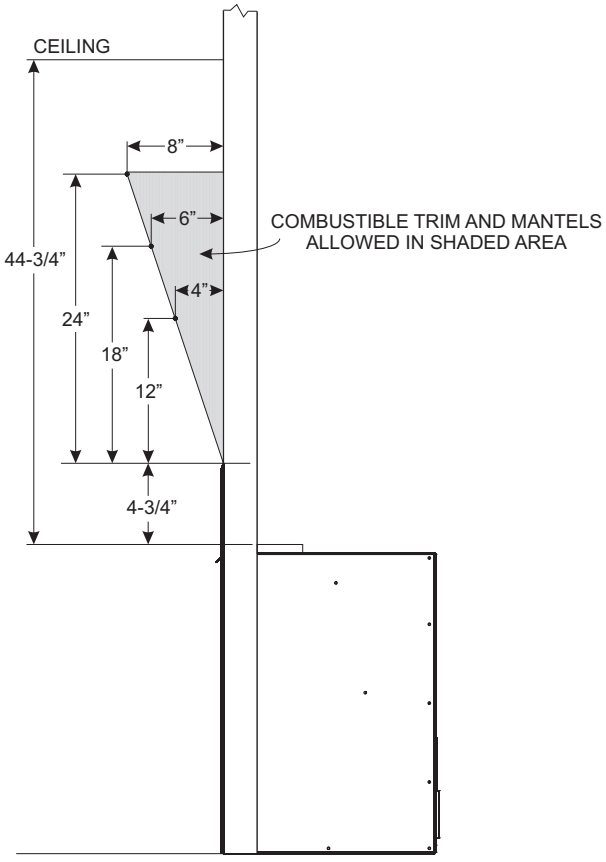


Figure 25

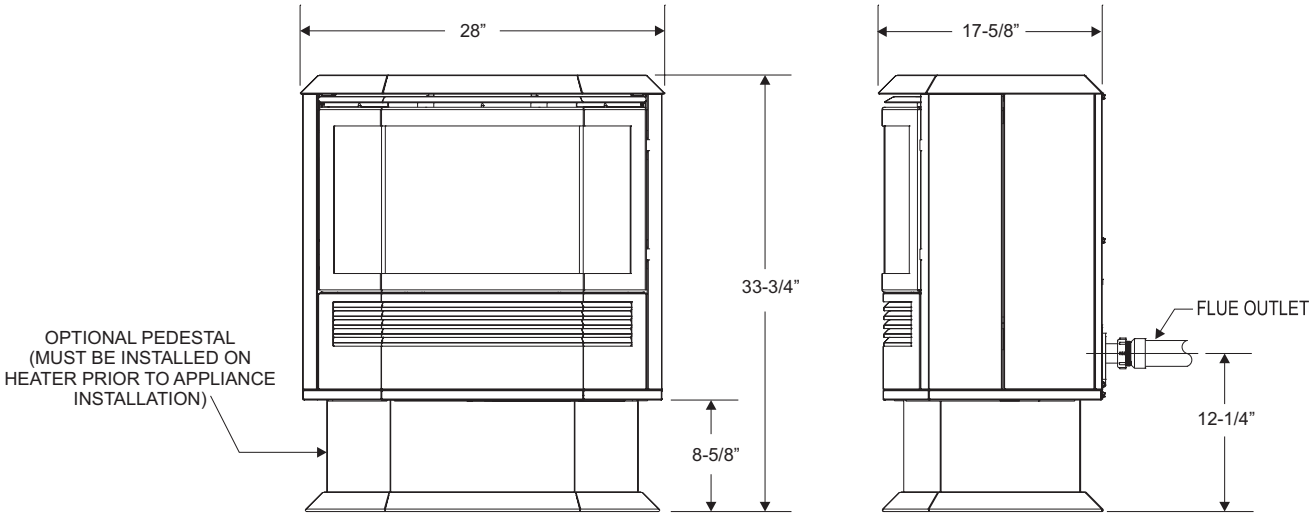
Insert Clearances		
A	Rear Wall to Heater	2” (1-1/4” for coaxial venting)
B	Side Wall to Heater	0”
C	Corner Installation	0”



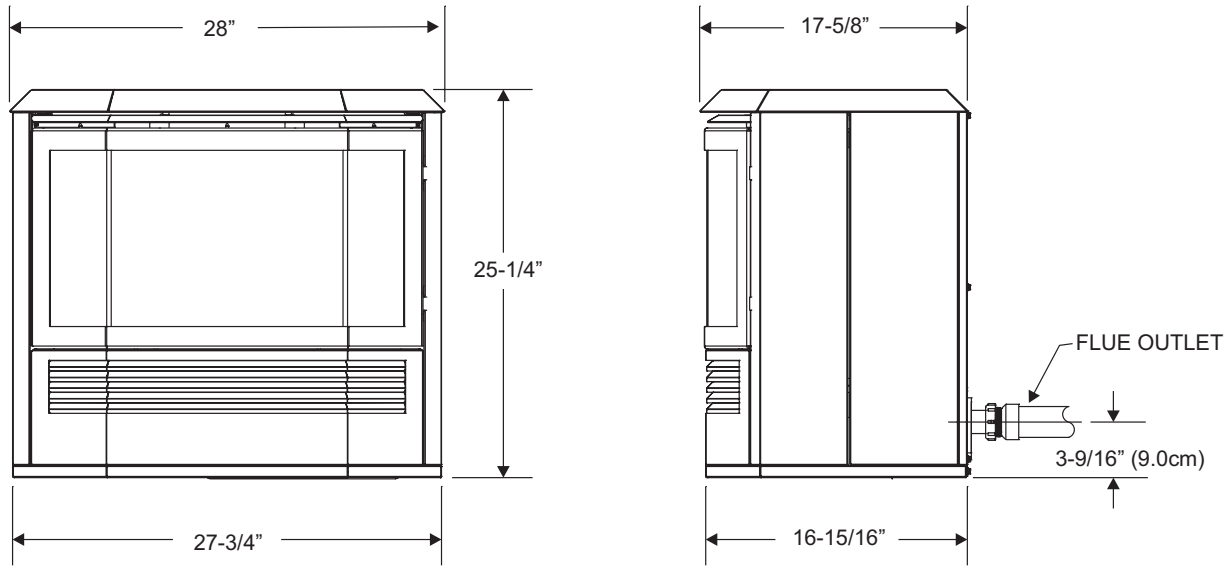
Mantel and Ceiling Clearances
Figure 26

Note: The Mantis Power-Vent High-Efficiency Fireplace has been tested and approved for zero clearance to combustible materials. It is recommended that clearances as listed above should be maintained to allow for removal of the product for servicing.

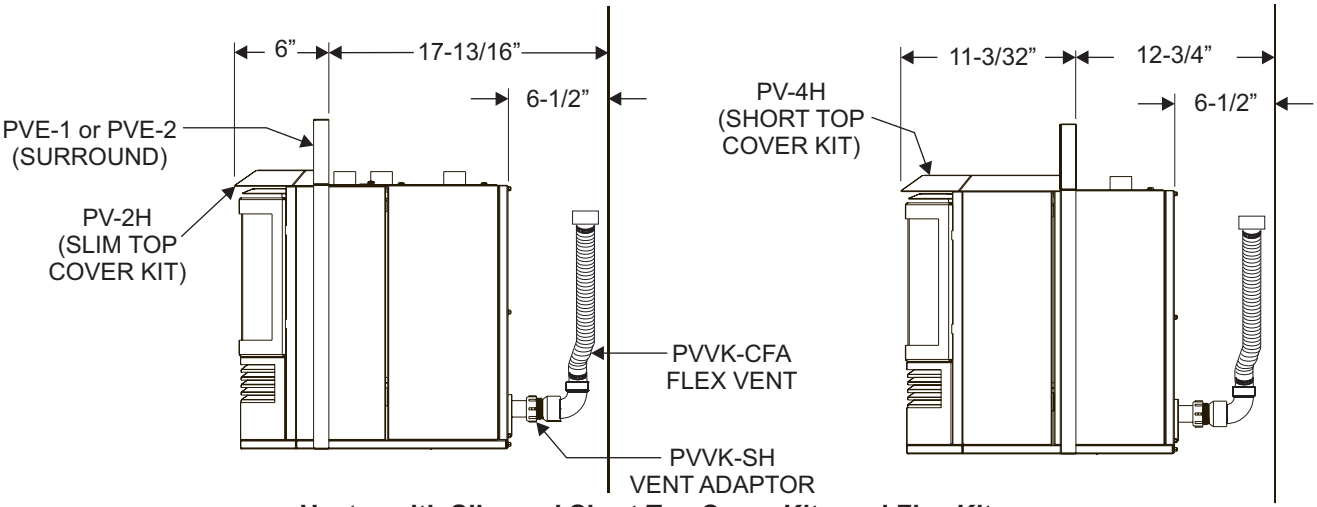
BAY WINDOW MANTIS SPECIFICATIONS



Heater with Pedestal and Single Flue Adaptor
Figure 27

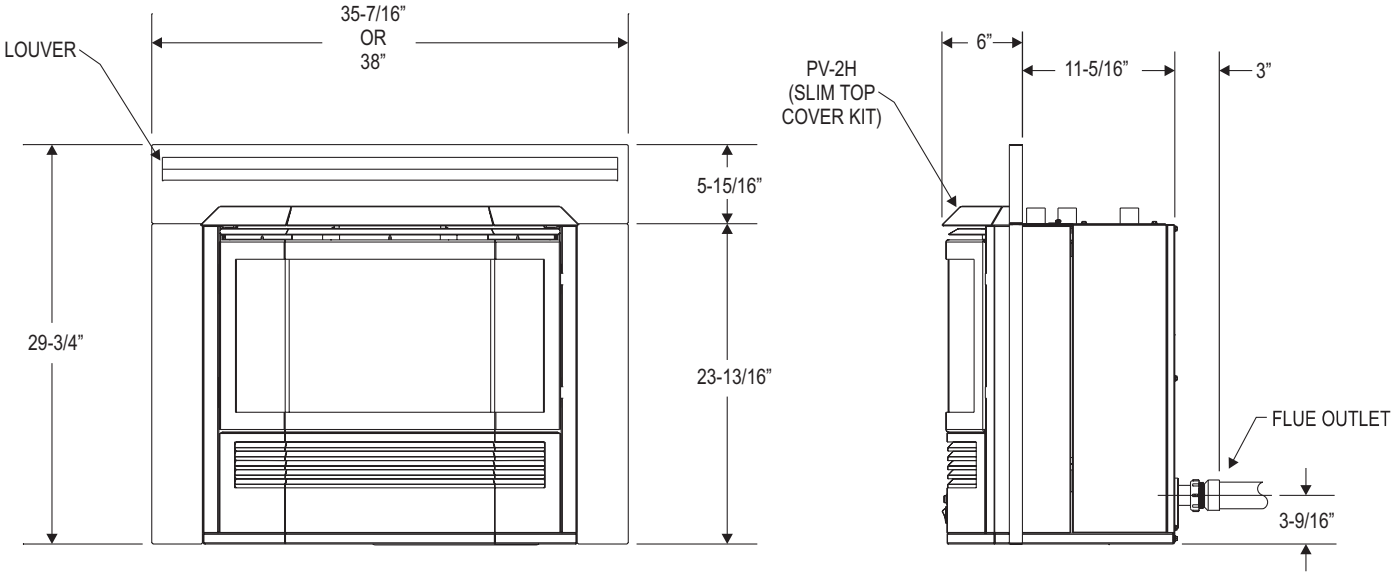


Heater without pedestal
Figure 28

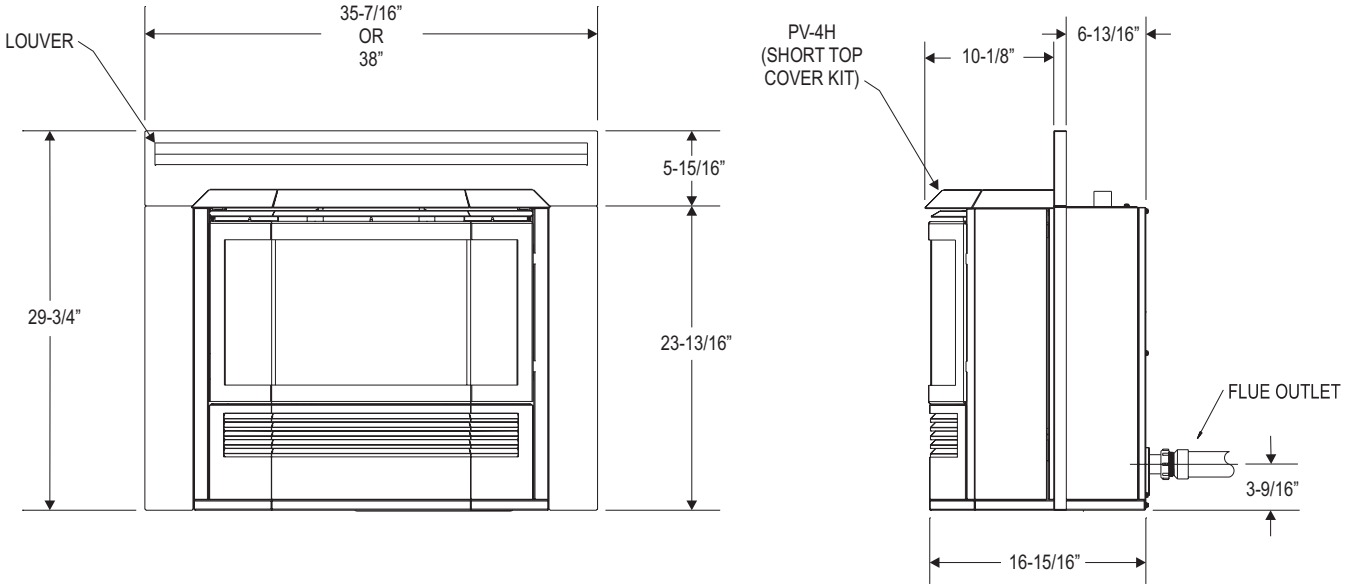


Heater with Slim and Short Top Cover Kits and Flex Kits.
Figure 29

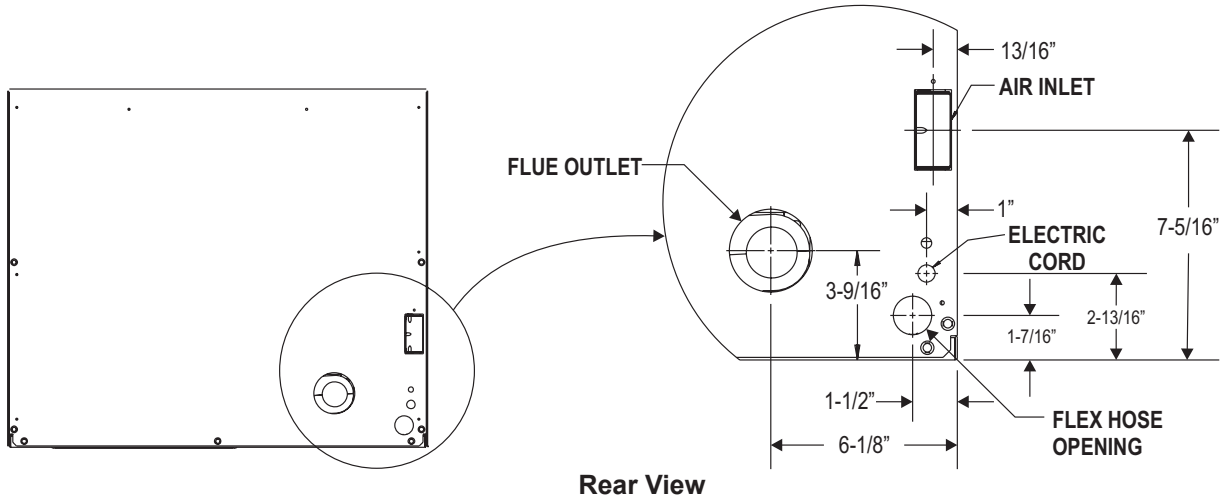
BAY WINDOW MANTIS SPECIFICATIONS - (continued)



Fireplace Insert with Mantel Surround with PV-2H Slim Top Cover Kit
Figure 30



Fireplace Insert with Mantel Surround with PV-4H Short Top Cover Kit
Figure 31



Rear View
Figure 32

FIREPLACE MANTIS SPECIFICATIONS

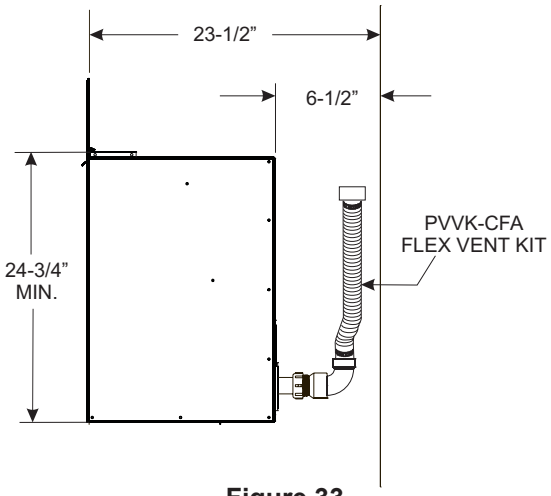


Figure 33
Heater with Flex Vent

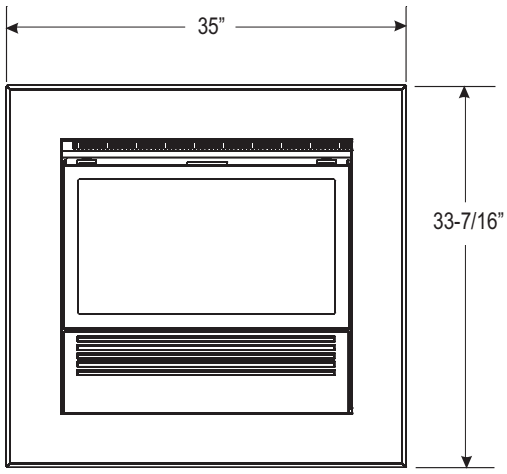


Figure 35
Heater In Wall - 35 Inch Picture Frame Surround
FWK28(BL,CM,HP,SS) - Contains surround, hood, and lower front

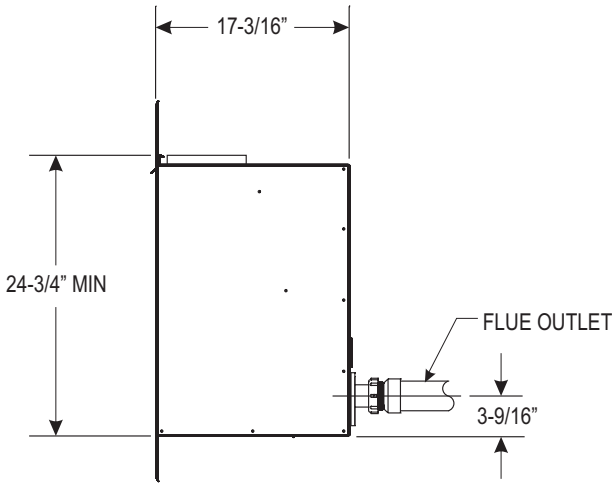


Figure 34

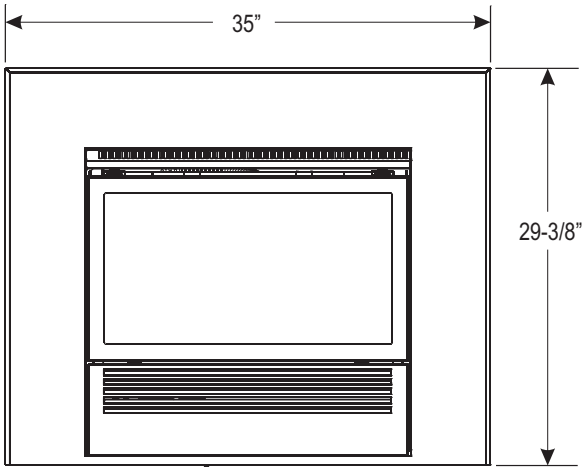


Figure 36
Heater - 35 Inch Surround Kit
FFK28(BL,CM,HP,SS) - Contains surround, hood, & lower front

FIREPLACE MANTIS SPECIFICATIONS

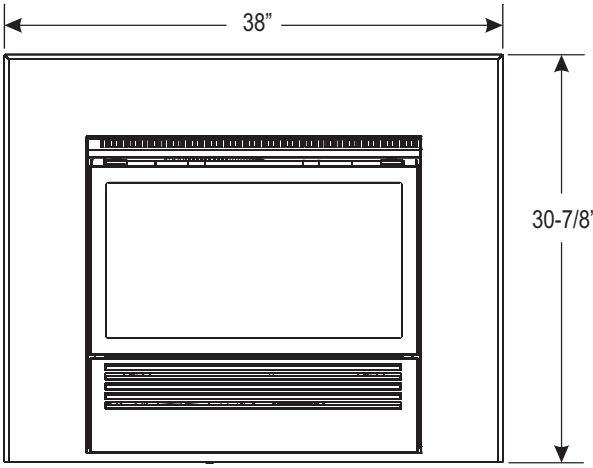


Figure 37
Heater - 38 Inch Surround
FIK28(BL,CM,HP,SS) - Contains surround, hood, & lower front

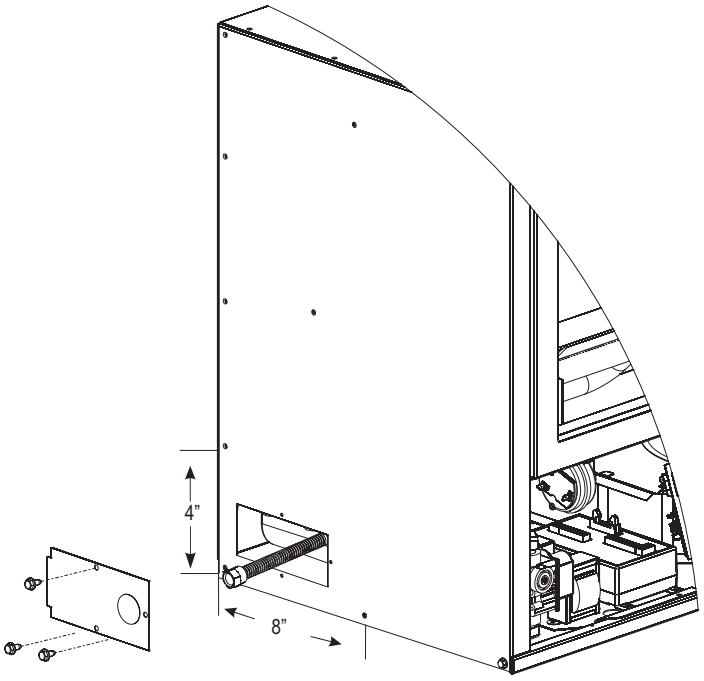


Figure 39
Clearance for Access Panel In-Wall Units
See Gas Connection Instructions.

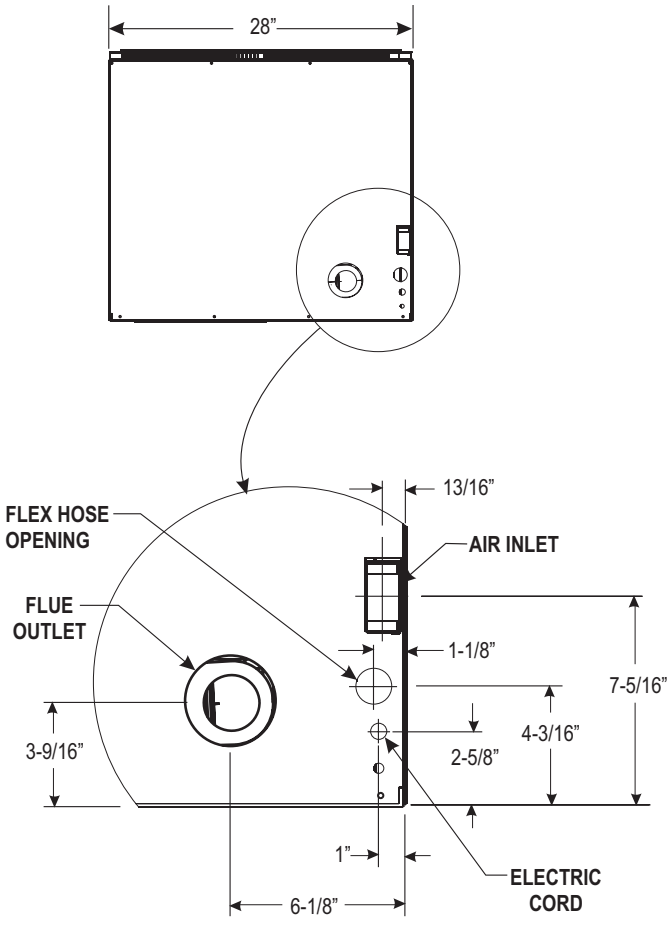


Figure 38

GAS CONNECTION INSTALLATION

⚠ CAUTION

The gas supply line to the heater must be installed under conditions which will allow for easy removal of the heater from its location for servicing of the heater. For fireplace insert installation, incorporate a loop into the flexible gas line.

Under no circumstances should the gas supply line to the appliance be installed in a way that would prevent the appliance from being serviced or inspected.

GAS SUPPLY LINE TO HEATER

1. Pull the factory installed flexible gas line through the hole in the back panel. See Figures 40 and 41.
2. Connect the gas supply line to flexible gas hose. Ensure that flexible gas hose is not kinked after fitting gas supply line. Any excess flexible line can be pushed back into the heater.
3. Place rubber grommet that is supplied in hardware packet over the flexible gas line and secure in the hole in the back of the appliance.

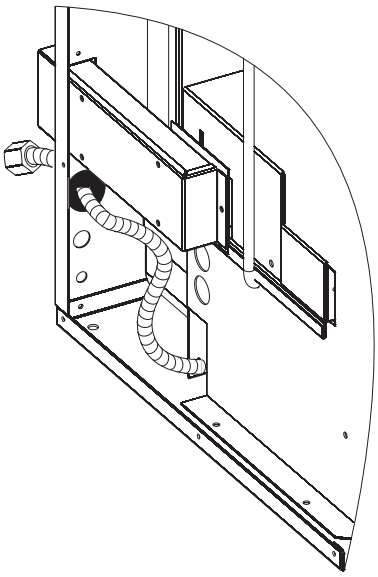


Figure 40 - Fireplace Mantis

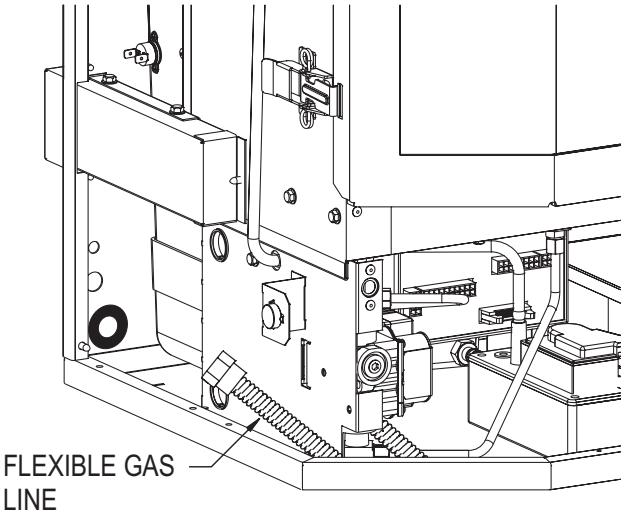


Figure 41 - Bay Window Mantis

Gas Connection - In-Wall Units - Fireplace Mantis ONLY

1. Remove the access plate on the left side of the cabinet by removing three screws as shown in Figure 42. Put the screws aside.
2. Push the factory supplied flexible gas line through the access hole on the side.
3. Remove the knockout from the access plate and insert the flexible gas line through the hole.
4. Secure the access plate to the cabinet with three screws removed in Step 1.
5. A plastic push in plug is supplied in the hardware package, insert the plug into the 1-3/8 inch hole in the back of the unit.
6. Insert the rubber grommet into the hole in the access plate to protect the flexible gas line.

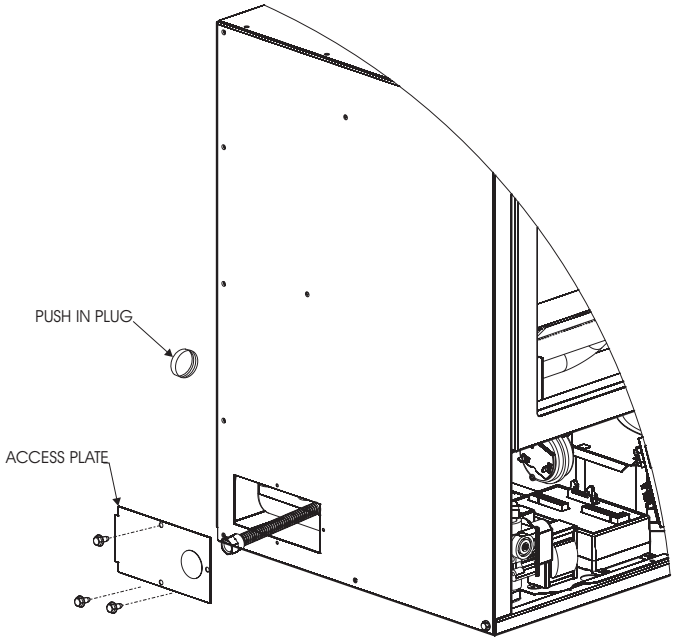


Figure 42
Gas Connection, Fireplace Mantis In-Wall Units

BAY WINDOW MANTIS LOG SET INSTALLATION INSTRUCTIONS

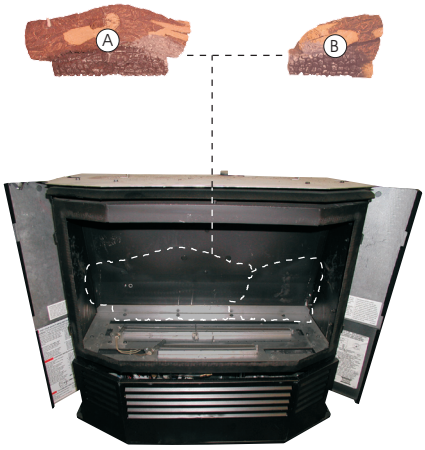
Log Installation

Positioning of the logs is critical to the safe and clean operation of this heater. If the logs are not placed in the proper position, the appliance can soot, and create an unsafe operating condition.

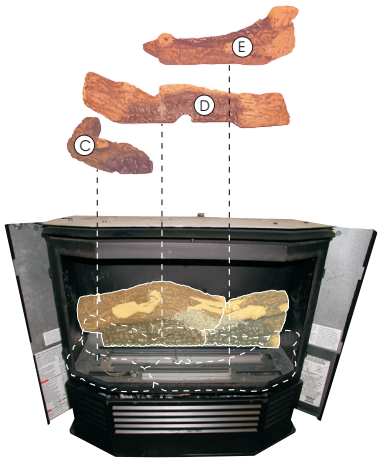
⚠ CAUTION

Do not handle these logs with your bare hands! Always wear gloves to prevent skin irritation. After handling the logs, wash your hands gently with soap and water.

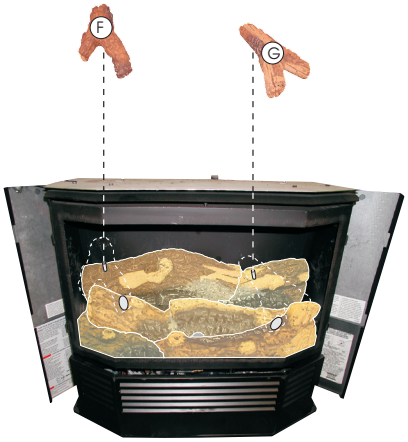
1. To access the log set parcel, lift off the top panel.
2. Pivot the left and right panels open.
3. Unhook the main door latches located on the right and left side of the heater, then remove the door.
4. Connect the Rear Left Log (A) and the Rear Right Log (B) to the pins on the sides of each log. Place the logs behind the rear burner. The logs should be all the way to the back of the firebox. See Figure 43.
5. Place the Front Left Log (C) into the groove on (A) Log, and locate into the left corner of firebox. See Figure 44.
6. Place the Middle Log (D) over the flame sensors that are located in the middle of the firebox.
7. Locate the Front Right Log (E) in the right front corner of firebox. The Front Right Log (E) should fit snug into the corner.
8. Place the Top Left Log (F) onto the pin on (A) Log. The “legs” of (F) Log will rest on (D) Log. See Figure 45.
9. Place the Top Right Log (G) onto the pin on (B) Log. The “legs” of (G) Log will rest on (E) Log.
10. Place the door assembly on the heater and secure with the main door latches that are located on right and left sides of the heater.
11. Close the left and right panels.
12. The installation of the log set is complete.
13. Verify that the logs are not in contact with the flame sensor. Interference with the flame sensor will effect the operation.



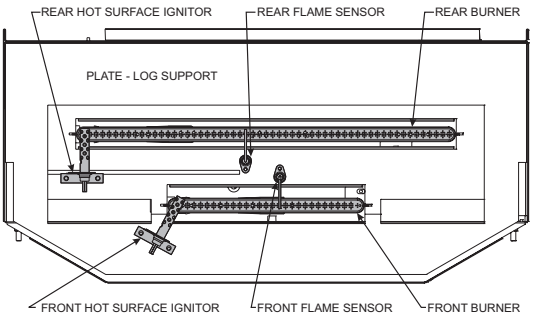
Log Placement
Figure 43



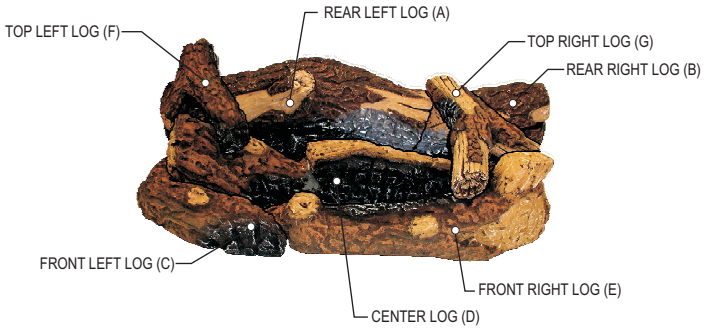
Log Placement
Figure 44



Log Placement
Figure 45



Firebox Layout
Figure 46



Log Assembly
Figure 47

FIREPLACE MANTIS LOG SET INSTALLATION INSTRUCTIONS

Log Installation

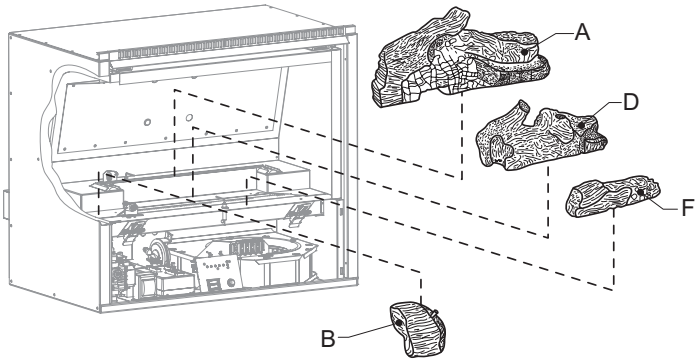
Positioning of the logs is critical to the safe and clean operation of this heater. If the logs are not placed in the proper position, the appliance can soot, and create an unsafe operating condition.

⚠ CAUTION

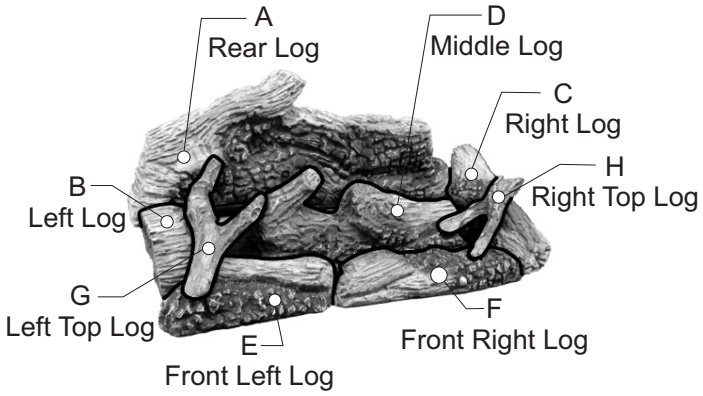
Do not handle these logs with your bare hands! Always wear gloves to prevent skin irritation. After handling the logs, wash your hands gently with soap and water.

Log Placement

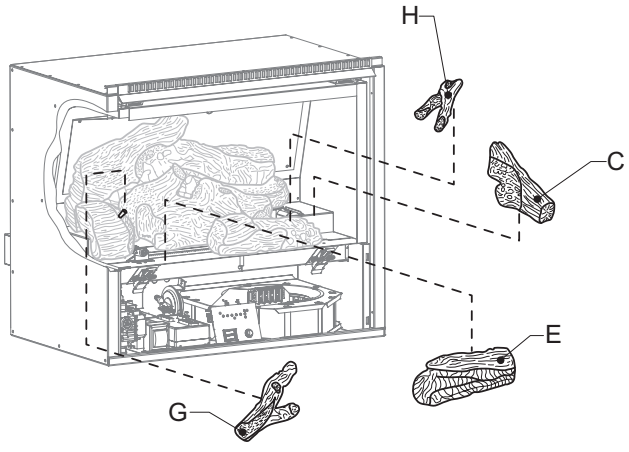
1. Place the Rear Log (A) onto the rear log support. The notch in the Rear Log fits over the rear igniter. See Figure 50.
2. Place Left Log (B) on the left rear log support shelf. The charred portion of the log must face inward. See Figure 48.
3. Locate the Middle Log (D) on front log support between the front and back burners.
4. Place the Front Right Log (F) on the right side of firebox bottom. The notch in the bottom of Front Right Log fits over the front flame sensor. See Figure 51.
5. Place the Front Left Log (E) on left side of the firebox bottom. The notch in bottom of Front Left Log fits over front Igniter. See Figure 51.
6. Place the Right Log (C) on the right rear log support shelf. The top of log rests on Rear Log (A) and bottom of log rests on Firebox bottom. The charred portion of log must face inward. See Figure 49.
7. Place the Left Top Long Log (G) on the pin on Left Log (B). The upper left leg of Left Top Log will rest on Rear Log (A). The upper right leg of Left Top Log will rest on Middle Log (D).
8. Place the Right Top Long Log (H) on the pin on the Right Log (C). The bottom left leg of Right Top Log (H) will rest in the indentation on the right side of the Middle Log (D). The bottom right leg of the Right Top Log (H) will rest in the indentation in the Front Right Log (F).
9. Verify that the logs are not in contact with the flame sensor. Interference with the flame sensor will effect the operation.



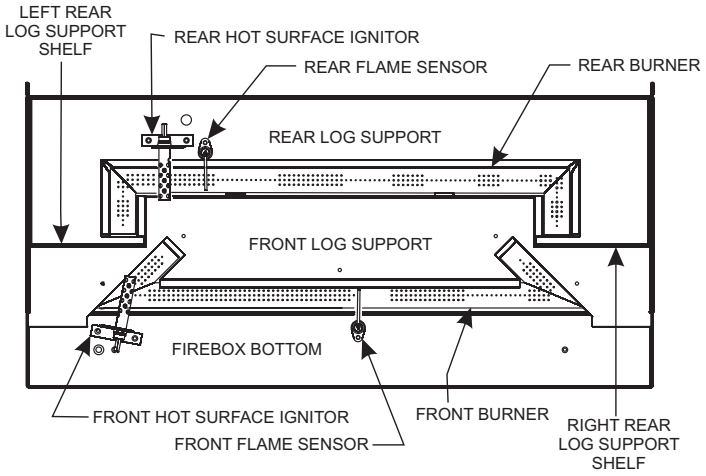
Log Placement
Figure 48



Log Assembly
Figure 50



Log Placement
Figure 49



Firebox Layout
Figure 51

WIRING

⚠ WARNING

Potential risk of fire, electric shock, and personal injury. Take precautions to reduce such risks.

⚠ CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

This appliance is equipped with a three-prong [grounding] plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug. For an ungrounded receptacle, an adapter, which has two prongs and a wire for grounding, can be purchased.

Proper line voltage polarity must be maintained in order for the control system to operate correctly. Verify the incoming neutral line is connected to the white wire and the incoming “hot” line is connected to the black wire. The heater will not operate properly unless the polarity and ground are correct.

Instructions for connecting controllers and thermostats can be found on page 32.

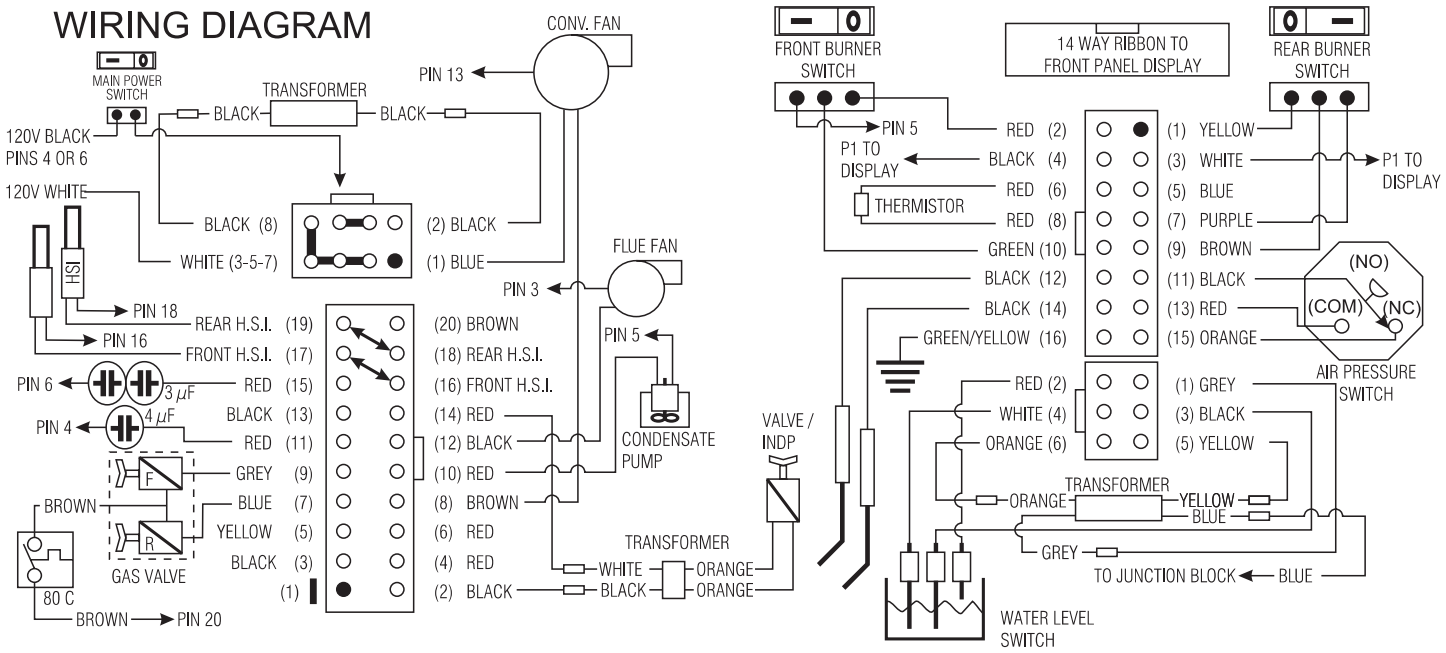


Figure 52

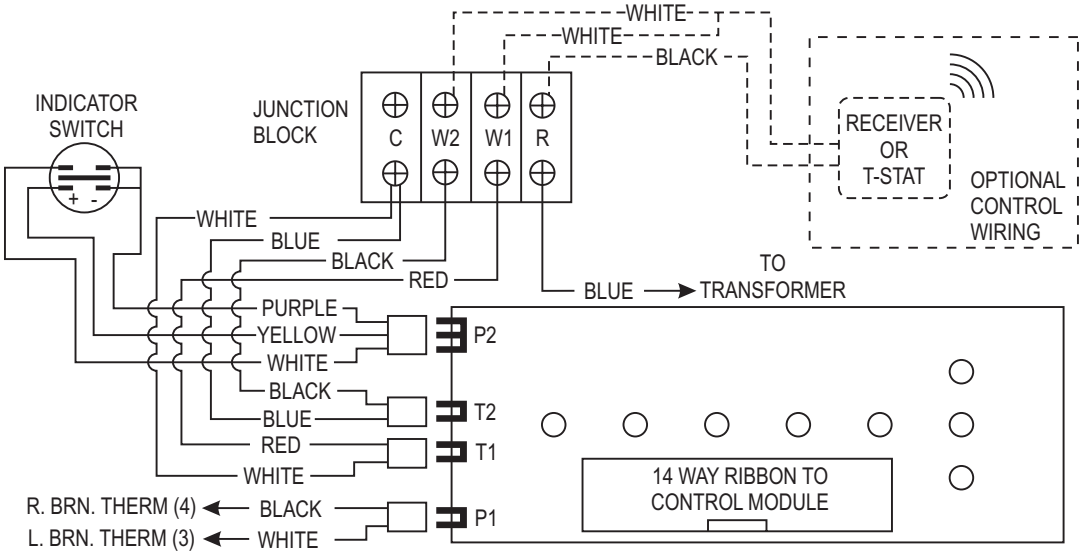


Figure 53

START UP CHECK LIST

⚠ WARNING

BEFORE OPERATING THIS APPLIANCE, CAREFULLY READ THE FOLLOWING.

1. Verify the gas line service does not exceed 10.5 in. w.c. and is not below 5.0 in. w.c. for natural gas, nor exceeds 13.0 in. w.c. or is below 11.0 in. w.c. for LP gas.
2. Check and inspect the appliance for gas leaks. In the event of gas leaks, cut off the gas supply to the heater immediately and call your gas supplier. Verify the gas line has been purged.
3. Verify that all exhaust and inlet air pipes are unobstructed and properly joined.
4. Visually verify the burners are free of dust and debris. See Figures 46 and 51.
5. Check and verify that logs are place correctly. See pages 25 to 26. The logs must be in the correct position or the heater will not operate correctly.

DO NOT light heater without the logs installed, the heater will not operate properly.

6. Verify that all panels are secured in place and that the glass assembly door has been locked in position.
7. Verify the two burner switches are in the OFF position before applying power and the main power switch.
8. After verifying and checking all the above points, proceed to lighting instructions. Refer to Page 29.
9. Verify that the polarity of the connections are correct and the line voltage power leads are secure.

Note: If using a surround, verify it is installed per the instructions included with the kit.

LIGHTING INSTRUCTIONS

FOR YOUR SAFETY READ BEFORE LIGHTING

⚠ WARNING: IF YOU DO NOT FOLLOW THESE INSTRUCTIONS EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY, OR LOSS OF LIFE.

A. BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

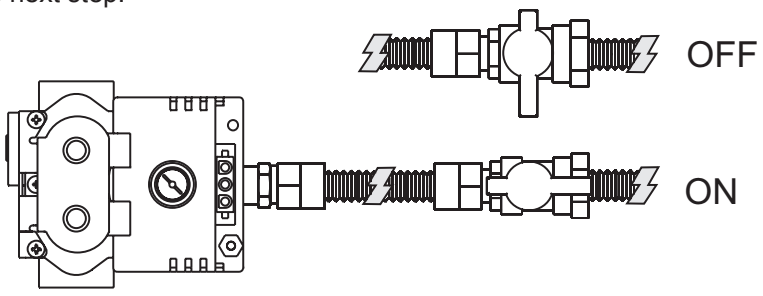
- Do not try to light any appliance.
- Do not touch any electrical switch.
- Do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you can not reach your gas supplier, call the fire department.

B. Use the on-the-wall switch or remote control switch to turn the gas control on/off. Any attempted repairs or adjustments should be performed by a qualified service technician. Applying force or attempted repair may result in a fire or explosion.

C. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

LIGHTING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the thermostat, if used, to the lowest setting.
3. Turn off all electric power to the appliance. Turn off electrical control switches to "O."
4. This appliance is equipped with an ignition device that automatically lights the burner. Do not try to light the burner by hand.
5. Remove the front access panel below the glass door by pulling both sides forward simultaneously.
6. Turn gas line valve to "ON."
7. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "A" in the safety information above. If you do not smell gas, go to the next step.
8. Replace the front access panel, press both sides of the panel until both lock position.
9. Turn on electric power to the appliance. Turn on electric control switches to " ".
10. Set thermostat to desired setting (if available).
11. If the appliance will not operate, follow the instructions "TO TURN OFF GAS TO APPLIANCE," and call your service technician or gas supplier.



TO TURN OFF GAS TO APPLIANCE

1. STOP! Read the safety information above.
2. Set the thermostat, if used, to the lowest setting.
3. Turn off electric power to the appliance.
4. Remove front access panel.
5. Turn gas line valve to "OFF."
6. Replace front access panel.

A. Turn on the main electrical power to the heater and turn the main burner switch to the ON position. See Figure 54. Verify power is on by checking if there is power to the circuit board. If the unit has power, the power light will be illuminated.

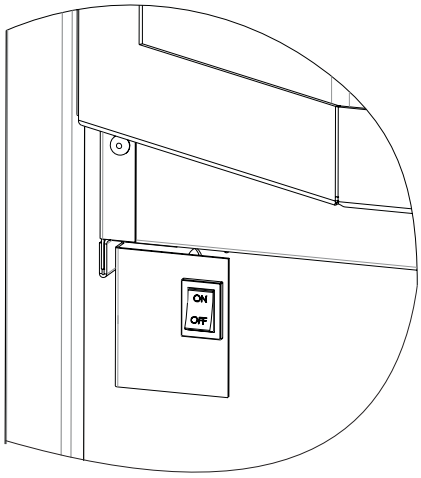


Figure 54

B. Turn on the main gas supply.
C. Turn both burner switches on to ignite both the front and rear burners.
D. The Display Panel board should be energized, and the power light will be illuminated.

Sequence of Operations – Front and Back Burners

1. The Display Panel will be energized, and the lights for the front burner and back burner will flash.
2. The inducer will activate immediately and will prove the pressure switch within 16 seconds. This will initiate the ignition sequence.
3. The rear igniter (HSI) will energize and start to glow red.
4. Within 3 to 5 seconds, the gas valve will open and ignite the rear burner. The flame sensor will verify the flame is present within 2 to 5 seconds.
5. The igniter for the front burner will energize 5 to 7 seconds after the flame is established on the rear burner.
6. The gas valve will open to ignite the front burner within 3 to 5 seconds. The flame sensor will verify the flame is present within 2 to 5 seconds.
7. As the Mantis warms up, the circulating blower will activate, starting on Low speed. The Low Blower L.E.D. will light when the blower turns on.
8. As the Mantis continues to operate, the speed of the circulating blower will increase, and the L.E.D. for Medium and High will appear.

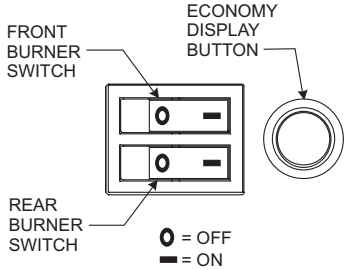


Figure 55

⚠ CAUTION

When switching from one burner to the other burner, be sure to first turn "ON" the desired burner before turning "OFF" the burner that is operating. Failure to follow this sequence may result in the heater needing to be reset. See page 33 - Resetting the Heater.

Sequence of Operations – One Burner Only

1. The Display Panel will be energized, and the light for either the front burner or back burner will flash, corresponding to which burner switch is activated.
2. The inducer will activate immediately and will prove the pressure switch within 16 seconds. This will initiate the ignition sequence.
3. The igniter (HSI) will energize and start to glow red.
4. Within 3 to 5 seconds, the gas valve will open and ignite the burner. The flame sensor will verify the flame is present within 2 to 5 seconds.
5. The igniter for the front burner will energize 5 to 7 seconds after the flame is established on the burner.
6. As the Mantis warms up, the circulating blower will activate, starting on Low speed. The Low Blower L.E.D. will light when the blower turns on.
7. As the Mantis continues to operate, the speed of the circulating blower may increase.

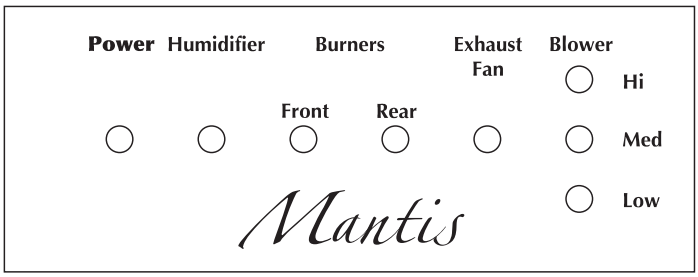


Figure 56

Checking Manifold Pressure

Both Propane and Natural gas valves have a built-in pressure regulator in the gas valve. Natural gas models will have a manifold pressure of approximately 4.0 in. w.c. at the valve outlet, with the inlet pressure to the valve at 5.0 in. w.c. to 10.5 in. w.c. Propane gas models will have a manifold pressure approximately 7.0 in. w.c. at the valve outlet, with the inlet pressure to the valve from 11.0 in. w.c. to 13.0 in. w.c.

A 1/8 inch N.P.T. plugged tapping, accessible for test gauge connection, is located on the outlet side of the gas control.

Blower Operation

The circulating air blower will automatically engage and increase in speed depending on the operation of the burners. See Figure 56. In most circumstances, the circulating blower will start 3 to 5 minutes after ignition of the burners.

Once the heater is turned off or the call for heat has been satisfied, the circulating blower will continue to run. The blower will automatically turn off once the heater has cooled down.

START UP AND ADJUSTMENTS

High Altitude
The Mantis can be installed to altitudes up to 10,000 feet in the U.S., and up to 4,500 feet in Canada. The installation must meet the requirements of the National Fuel Gas Code or local jurisdictions. A high altitude kit is needed for installation above 2,000 feet. See the instructions provided with the Mantis High Altitude Kit for derate instructions.

Humidifier Operation
When the heater has been running, the humidifier L.E.D. (Figure 56) may turn on to signal that the pump has been activated. Refer to Page 30 - Automatic Humidifier Operation.

Paint Curing - First Firing
The Mantis Power-Vent High-Efficiency Fireplace has been painted with the high quality heat resistant silicon paint. To ensure that the paint is properly cured, allow the heater to operate with both burners on, for approximately 1 hour. During the initial firing of the appliance, it is common for smoke to appear.

⚠ CAUTION

DO NOT touch the surface of the heater. The paint will soften during the initial operation, and will harden over time. Once the paint is cured, it will not soften again.

- To prevent triggering of smoke alarms, supply proper ventilation to the room where the unit is installed.
- During initial firing of logs, an odor will occur as the logs are curing. It is also common for the burner to burn with a yellow flame.
- DO NOT clean the heater with any caustic or abrasive cleaning solutions. This will damage the surface.
- Any damage to the painted surfaces should be repaired only with authorized paint available from your Mantis Dealer.

Shut Down Instructions
To turn the heater off, simply switch the burner switch(es) to the "OFF" position. See Figure 55. DO NOT cut the main electrical power to the heater.

The circulating blower will continue to operate after the burners are turned off. The blower will stop automatically once the heater has cooled down.

AUTOMATIC HUMIDIFIER OPERATION

The Mantis Power-Vent High-Efficiency Fireplace has an automatic humidifier designed into the heater. As the heater operates, condensate is created and is collected in a tank inside the heater. The condensate pump will take the condensate that is collected and pump it to a stainless steel tray where it evaporates into the airstream. Humidity is then restored into the space.

Note: When the automatic humidifier is engaged and is transferring the condensate, there may be a noticeable hissing sound. This is normal, and the sound should persist for less than 30 seconds.

The amount of condensate created will vary based on several factors including but not limited to location of heater, air temperature, length of venting, and whether the vent pipe is horizontal or vertical. The humidifier will operate intermittently while the heater is operating.

While the condensate pump is transferring the condensate from the tank to the tray, the humidifier L.E.D. light will flash during pump operation. See Figure 56. Once the condensate is transferred, the light will turn off.

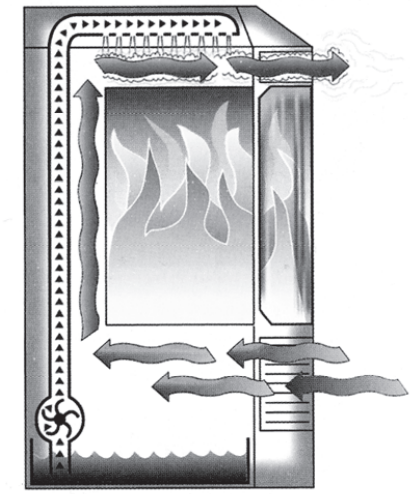


Figure 57

OPTIONAL CONTROLS

Economy Mode (Red Button Operation)

To utilize this feature, a programmable control or thermostat must be connected to the heater. A red button is located next to the burner switches on the front control panel. See Figure 58. This is called the economy mode.

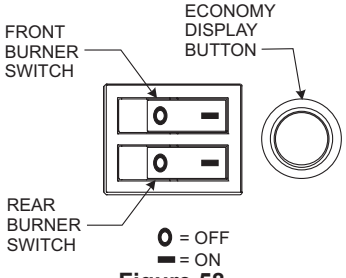


Figure 58

OPTIONAL CONTROLS

To use this feature, both burner switches need to be in the “ON” position, and the red button must be pressed so it is illuminated. This will ignite the front burner. The front burner will remain on when the red button is illuminated, and the back burner will cycle with the thermostat. The red button acts only as an override for the front burner.

To Deactivate
Press the red button so it is not illuminated, then the heater will return to normal operation.

TEMPERATURE CONTROLS	
FRBTP	Battery Operated Remote w/ Programmable Thermostat
FRBTC	Battery Operated Remote w/ Thermostat
TRW	Battery Operated Wireless Remote Wall Thermostat
TMV2	Thermostat, 2 Stage
T24V	Thermostat, 24 Volt
TDV1	Wall Thermostat, 24 Volt (Fireplace Mantis Only)

Installation Instructions for FRBTP, FRBTC, and TRW

⚠ CAUTION

Before connecting any controller, disconnect power to the appliance.

Remote Controls FRBTP, FRBTC and TRW are all battery operated devices. Begin the installation by unplugging the unit and removing the front louver panel or turn off main power switch.

Remove the wire nut from the black and white wire from junction block.

The black or white wire can be inserted in either remote control receiver connection hole, or connected to the T24V thermostat screws. There is no polarity at this connection. See Figure 59.

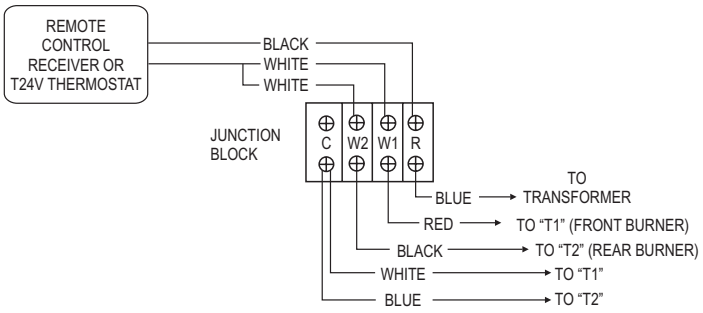


Figure 59

Replace the front louver panel and plug the unit into the outlet to restore power. Turn both burner switches to the ON position. Burner switches must remain in the ON position for the remote to function. Adjust the remote from the instructions provided with the remote control. Set T24V thermostat to desired temperature.

Note: If the heater will not be used for long periods of time, turn the burner switches to the “OFF” position and turn the power off at the power source.

Installation Instruction for TMV2 - Two Stage Thermostat Model:

CAUTION: Before connecting any controller, disconnect power to the appliance.

Begin the installation by removing the front louver panel.

Determine the mounting location of the thermostat. Using standard 18 AWG wire, run four (4) strands of wire to the back of the appliance and to the junction block. Cut the wire to the correct length. See Figure 60.

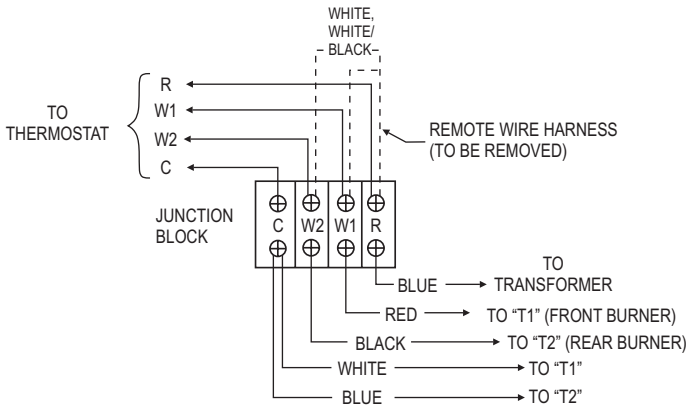


Figure 60

Replace the front louver panel and plug unit into outlet, or restore power. Turn both burner switches “ON.” The burner switches must remain in the ON position for thermostat to function. Set the thermostat using the instructions provided with the thermostat.

Note: If the heater will not be used for long periods of time, turn the burner switches to the “OFF” position and turn the power off at the power source.

Mounting A Receiver Box
If a remote thermostat is used, the receiver must be located inside the heater. The receiver can be mounted to the top of the blower housing and secured with hook and loop tape. See Figure 61.

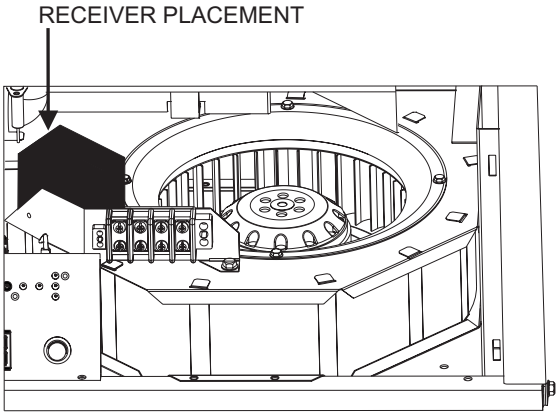


Figure 61

MAINTENANCE & SERVICE

The Mantis should be inspected and serviced annually by a qualified service person. This will ensure that the appliance is operating safely and efficiently. Should you suspect any abnormal operation, contact a service person that has been trained to service this product.

Cleaning the Glass Door

After the initial paint curing, a slight film may form on the glass. It is recommended to clean the glass with gas fireplace glass cleaner.

The glass will need to be cleaned periodically during the year. Use care when removing and cleaning the glass. In the event the glass needs replaced, contact a qualified service person. Only glass approved by Empire Comfort Systems Inc. may be used, any substitute glasses will void the warranty.

⚠ CAUTION

Do not attempt to clean the glass when it is hot. Do not strike or hit the glass.

⚠ WARNING

Do not operate this appliance without the glass door in place. Do not operate if the glass front is broken or damaged. Do not use the glass door if the gasket is missing or is damaged.

⚠ CAUTION

Be certain the glass is cool before handling.

BAY WINDOW MANTIS MODELS

Removing the Glass Door

1. Remove the top of the cabinet.
2. Open the panels on the left and right sides. The panels pivot in place.
3. Release the two door latches on both the left and right sides of the firebox.
4. Carefully grab the glass frame and pull towards you. Do not damage or remove the gasket from the door.

FIREPLACE MANTIS MODELS

Removing the Glass Door

1. Remove the lower louvered panel by lifting up then pulling out.
2. Release the two hinge clips on underside of firebox.
3. Angle the bottom of glass assembly approximately 60 degrees out from firebox. Gently pull glass assembly away from firebox. Do not damage or remove the gasket from the door.

Resetting the Heater

To reset the heater, first turn both burner switches to the OFF position. Verify the red button next to the burners is not illuminated. If a Remote Control is fitted, turn the remote to the “OFF” position. Turn the power off at the power source for 5 minutes.

Turn the power back on, and verify the L.E.D. lights on the Control Panel Circuit Plate are illuminated. The burners should ignite in approximately 60 seconds. The circulating blower will start in 3 to 5 minutes. The blower may continue to operate after the burners are turned off.

⚠ WARNING

Potential risk of fire, electric shock, and personal injury. Take precautions to reduce such risks

⚠ CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

If equipped, the Mantis can also be reset by switching the main power switch to the “OFF” position for 5 minutes. See Figure 62.

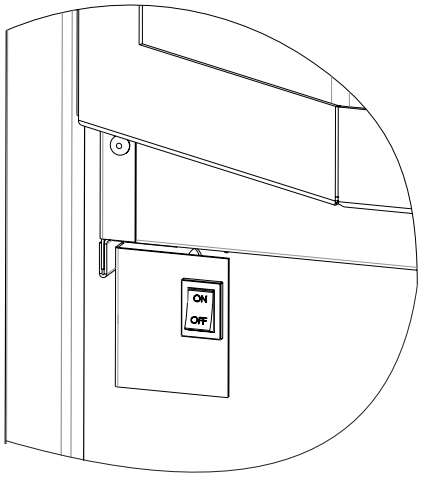


Figure 62

MAINTENANCE & SERVICE

Over Temperature Limit Switch
The Mantis Power-Vent High-Efficiency Fireplace is protected against overheating with a high temperature switch, which protects the heat exchanger, plastic sump and inducer.

If the over temperature limit activates, the gas supply will shut off and both the inducer and circulating air blower will run. Once the heater cools down, the limit will reset and the heater will operate normally.

Circulating Air Blower
The circulating air blower should be checked and cleaned annually by a qualified service person to ensure that your appliance is operating efficiently. Any dirt or lint can affect the operation of the blower.

Heat Exchanger
The heat exchanger is located on the backside of the heater. The heat exchanger should be inspected and cleaned annually by a qualified service person.

Replacement Logs
If for any reason a log should need replacement, contact your Mantis dealer for correct replacement logs. Replacement logs must be installed and positioned as outlined on Pages 25 to 26.

⚠ CAUTION

Proper positioning of the logs is critical to the safe and clean operation of this heater. Sooting and other problems may result if the logs are not properly and firmly positioned in the appliance.

RECOMMENDED MAINTENANCE		
MAINTENANCE ITEM	FREQUENCY OF MAINTENANCE	
	MONTHLY BY HOMEOWNER	ANNUALLY BY SERVICE PERSON
Verify the area is free from combustible materials.	X	X
Verify the combustion and ventilation air is not restricted.		X
Verify the flue and inlet pipes do not have any cracks or holes.		X
Verify burner flame.		X
Clean the blower compartment		X
Clean the burners.		X
Verify the condensate system is clean and leak free.		X

If service is needed to the condensate pump, the wires must be attached in the same order they were removed. If the pump is replaced, follow the wire connection instruction label on the pump cover.

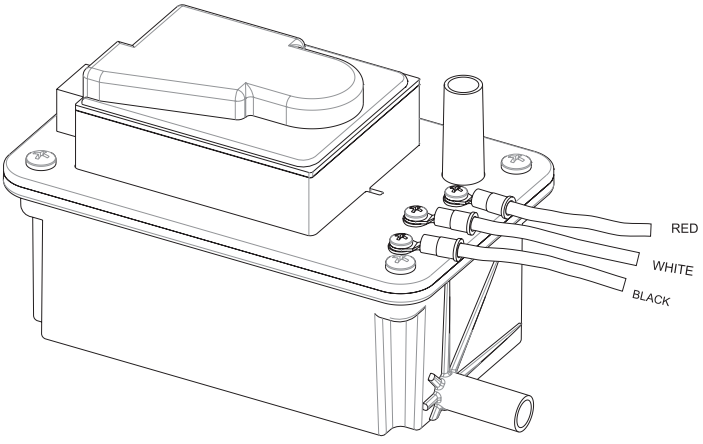


Figure 63

MASTER PARTS DISTRIBUTOR LIST

To Order Parts Under Warranty, please contact your local Empire dealer. See the dealer locator at www.empirecomfort.com. To provide warranty service, your dealer will need your name and address, purchase date and serial number, and the nature of the problem with the unit.

To Order Parts After the Warranty Period, please contact your dealer or one of the Master Parts Distributors listed below. This list changes from time to time. For the current list, please click on the Master Parts button at www.empirecomfort.com.

Please note: Master Parts Distributors are independent businesses that stock the most commonly ordered Original Equipment repair parts for Heaters, Grills, and Fireplaces manufactured by Empire Comfort Systems Inc.

Dey Distributing
1401 Willow Lake Boulevard
Vadnais Heights, MN 55101

Phone: 651-490-9191
Toll Free: 800-397-1339
Website: www.deydistributing.com
Parts: Heater & Hearth

East Coast Energy Products
10 East Route 36
West Long Branch, NJ 07764

Phone: 732-870-8809
Toll Free: 800-755-8809
Fax: 732-870-8811
Website: www.eastcoastenergy.com
Parts: Heater & Hearth and Grills

Victor Division of F. W. Webb Company
200 Locust Street
Hartford, CT 06114

Phone: 860-722-2433
Toll Free: 800-243-9360
Fax: 860-293-0479
Toll Free Fax: 800-274-2004
Websites: www.fwwebb.com & www.victormfg.com
Parts: Heater & Hearth and Grills

HOW TO ORDER REPAIR PARTS

Parts Not Under Warranty

Parts can be ordered through your Service Person, Dealer, or a Master Parts Distributor. See this page for the Master Parts Distributors list. For best results, the **service person or dealer** should order parts through the distributor. Parts can be shipped directly to the **service person/dealer**.

Warranty Parts

Warranty parts will need a proof of purchase and can be ordered by your Service Person or Dealer. Proof of purchase is **required** for warranty parts.

All parts listed in the Parts List have a Part Number. When ordering parts, first obtain the Model Number and Serial Number from the name plate on your equipment. Then determine the Part Number (**not** the Index Number) and the Description of each part from the following illustration and part list. Be sure to give all this information . . .

Appliance Model Number _____ Part Description _____

Appliance Serial Number _____ Part Number _____

Type of Gas (Propane or Natural) _____

Do not order bolts, screws, washers or nuts. They are standard hardware items and can be purchased at any local hardware store.

Shipments contingent upon strikes, fires and all causes beyond our control.

BAY WINDOW MANTIS PARTS LIST

⚠ WARNING

Use only manufacturer's replacement parts. Use of any other parts could cause injury or death.

INDEX NO.	PART NO.	DESCRIPTION
1	26751	REAR PANEL
2	21654	BRACKET, PIPE ASSEMBLY
3	24831	REAR HEAT SHIELD ASSEMBLY
4A	21664	TOP COVER ASSEMBLY (INCLUDES #5)
4B	22933	SLIM TOP ASSEMBLY
4C	22934	SHORT TOP ASSEMBLY
5	R8854	BALL STUD
6	22693	TOP HEAT SHIELD ASSEMBLY
7	21637	FIREBOX ASSEMBLY
8	26089	HEAT EXCHANGER TUBE ASSEMBLY
9	R10337	GASKET, END PLATE
10	R9987	FLEX LINE - 24"
11	26087	SUMP ASSEMBLY (INCLUDES #12 & #14)
12	22863	BLOWER ASSEMBLY (INCLUDES #14)
13	R10299	SWITCH, BIMETALIC
14	R8795	GASKET, SUMP
15	26090	FIN TUBE ASSEMBLY
16	R8811	GASKET, INLET HEADER
17	21650	TUBING (SUMP TO PUMP)
18	21652	TUBING (SUMP TO PRESSURE SWITCH)
19	21627	SHIELD, REAR INNER
20	25227	ELECTRIC PARTS PLACE
21	21667	LEFT SIDE DOOR ASSEMBLY
22	22642	TUBE, CONDENSATE
23	21647	CONNECTOR TUBING ASSEMBLY (PUMP TO CONDENSATE TUBE)
24	21605	COVER, INLET AIR DUCT
25	22780	INLET AIR DUCT ASSEMBLY
26	R8810	GASKET, INLET AIR DUCT
27	21641	BRACKET ASSEMBLY THERMISTER (SPRING CLIP INCLUDED)
28	R4053	CLAMP, DOOR (4 USED ON UNIT)
29	22773	THERMISTER ASSEMBLY
30	R10488	3/8 ELBOW, 90
31	26672	BRACKET, SHIELD
32	26789	BOTTOM PAN ASSEMBLY
33	26123	INLET HEADER
34	21665	RIGHT SIDE DOOR ASSEMBLY
35	21651	TUBING (FIREBOX TO PRESSURE SWITCH)
36	R8835	FITTING, BARBED HOSE
37	22865	IGNITOR, HOT SURFACE ASSEMBLY
38	21611	BRACKET, IGNITOR
39	R8807	FLAME SENSOR
40	26800	LOG PLATE ASSEMBLY
41	26787	SMALL BURNER ASSEMBLY LP (INCLUDES R10675 AND #44)
41	22753	SMALL BURNER ASSEMBLY NAT (INCLUDES #43 AND #44)
42	26801	LARGE BURNER ASSEMBLY - LP (INCLUDES #44 AND R10676)
42	22658	LARGE BURNER ASSEMBLY - NAT (INCLUDES #44 AND R10675)
43	R9831	BUSHING, AIR SHUTTER (NAT ONLY)
44	R8790	BUSHING, BURNER
45	P208	REAR ORIFICE, LPG
45	P288	REAR ORIFICE, NAT
46	P208	FRONT ORIFICE, NAT
46	P307	FRONT ORIFICE, LPG

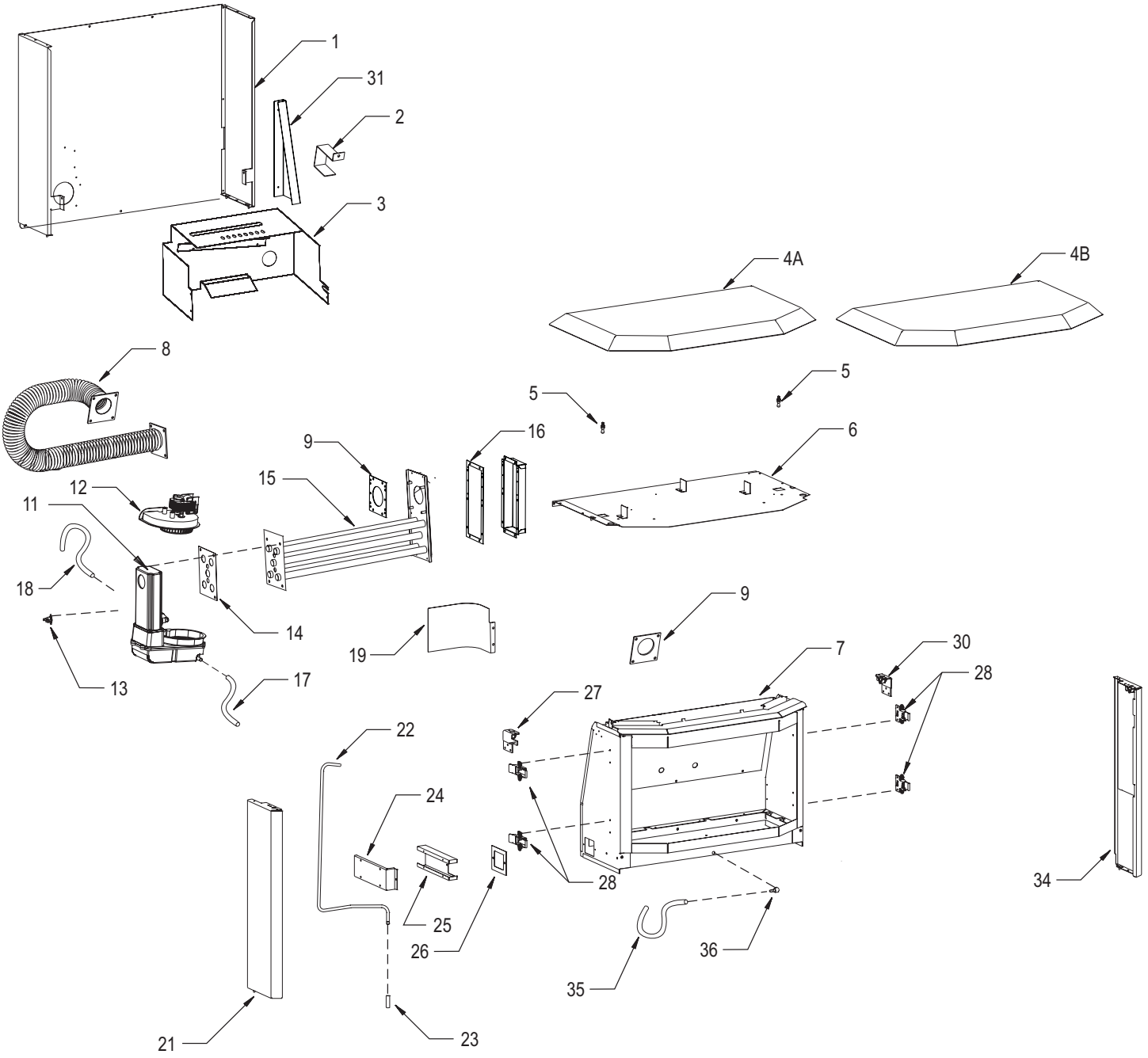
BAY WINDOW MANTIS PARTS LIST

⚠ WARNING

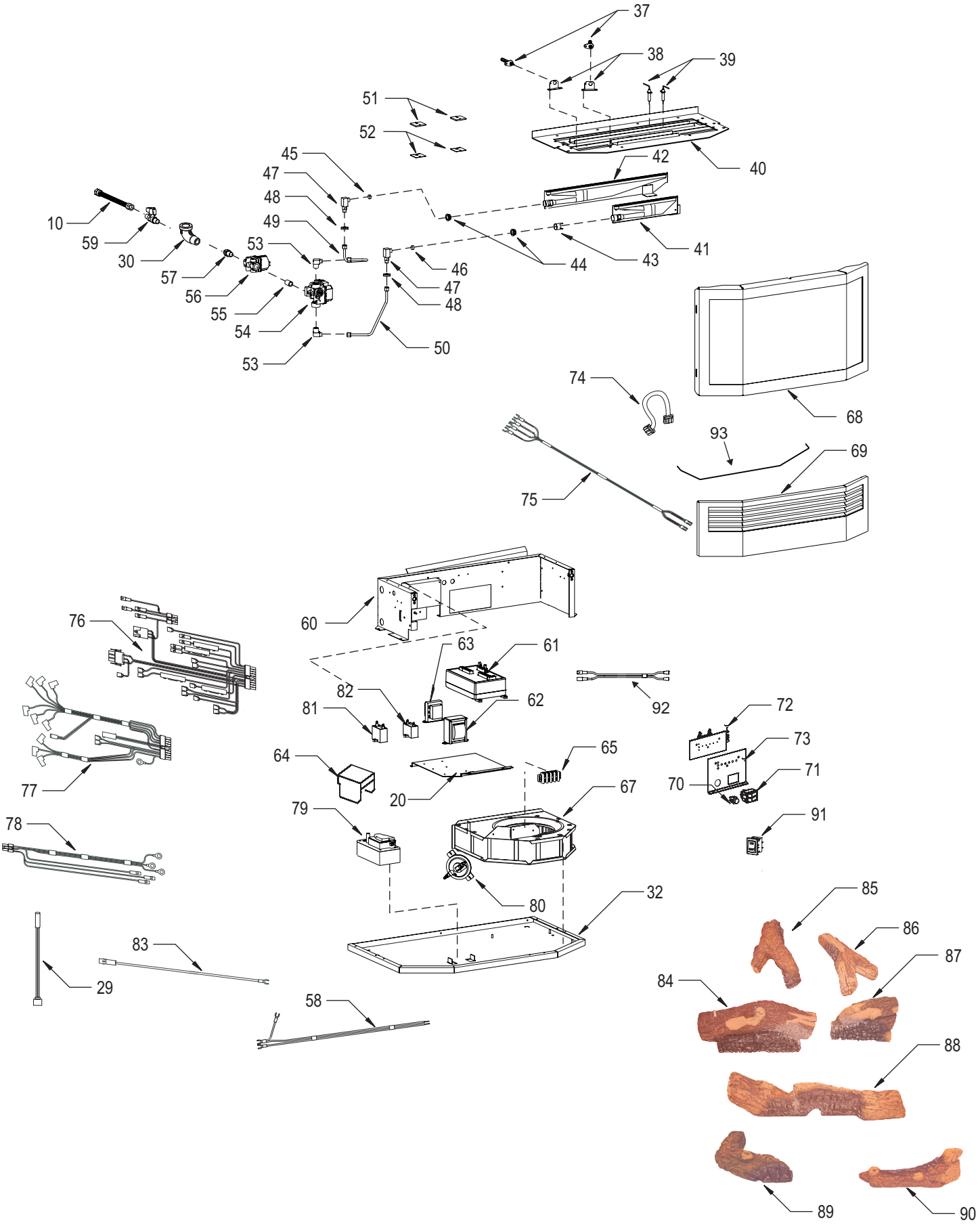
Use only manufacturer's replacement parts. Use of any other parts could cause injury or death.

INDEX NO.	PART NO.	DESCRIPTION
47	R10796	HOLDER, ORIFICE
48	R7572	JAMB NUT
49	27071	GAS LINE - REAR
50	26128	GAS LINE - FRONT
51	M174	GASKET
52	11269	GAS LINE BRACKET
53	R8886	COMPRESSION FITTING
54	R8812	VALVE, NAT
54	R8869	VALVE, LPG
55	R8898	PIPE NIPPLE
56	R8825	SOLENOID
57	R3312	CONNECTOR, MALE 3/8 X 3/8
58	R9487	REMOTE WIRE HARNESS
59	R10072	SHUT-OFF VALVE
60	21643	FIREBOX BASE ASSEMBLY
61	R10775	CONTROL BOX ASSEMBLY
62	R8889	TRANSFORMER 12-24V
63	R8804	TRANSFORMER 24V
64	25325	CONDENSATE PUMP COVER
65	R8817	TERMINAL STRIP
67	22778	CIRCULATING BLOWER ASSEMBLY
68	21663	DOOR ASSEMBLY, BLACK
68	22758	DOOR ASSEMBLY, CHROME
68	22759	DOOR ASSEMBLY, GOLD
69	26582	FRONT PANEL ASSEMBLY
70	R8840	WIRE HARNESS ASSEMBLY WITH ECONOMY SWITCH
71	R8809	SWITCH, DOUBLE ROCKER
72	R8904	CIRCUIT BOARD
73	25226	CIRCUIT BOARD PLATE
74	R10759	RIBBON CABLE
75	R8872	CIRCUIT BOARD WIRE HARNESS
76	R10182	WIRE HARNESS, 120V
77	R10183	WIRE HARNESS 12V
78	R10190	WIRE HARNESS 12V
79	26075	PUMP ASSEMBLY
80	R10489	AIR PRESSURE SWITCH
81	R8881	CAPACITOR 3uF
82	R8880	CAPACITOR 4uF
83	R8911	TRANSFORMER WIRE ASSEMBLY
84	R10485	LOG, LEFT REAR
85	R8822	LOG, TOP LEFT
86	R10487	LOG, TOP RIGHT
87	R10486	LOG, RIGHT
88	R8820	LOG, CENTER
89	R8819	LOG, FRONT LEFT
90	R8821	LOG, FRONT RIGHT
91	R2522	MAIN POWER SWITCH
92	R10610	WIRE HARNESS, MAIN POWER SWITCH
NOT SHOWN	R10675	BUSHING, AIR SHUTTER
NOT SHOWN	R10676	BUSHING, AIR SHUTTER
NOT SHOWN	R6389	THERMOSTAT

BAY WINDOW MANTIS PARTS VIEW



BAY WINDOW MANTIS PARTS VIEW



FIREPLACE MANTIS PARTS LIST

⚠ WARNING

Use only manufacturer's replacement parts. Use of any other parts could cause injury or death.

INDEX NO.	PART NO.	DESCRIPTION
1	25207	PANEL - TOP
2	21595	CONDENSATE TRAY
3	25223	LOUVER - TOP
4	25212	REAR BURNER TRAY
5	R9987	FLEX LINE
6	26081	FRONT BURNER TRAY ASSEMBLY
7	25205	PANEL - LEFT SIDE
8	21605	INLET AIR DUCT COVER
9	21604	INLET AIR DUCT
10	R8810	INLET AIR DUCT GASKET
11	R8825	SOLENOID
12	R10072	GAS SHUT OFF VALVE
13	R8812	VALVE - NAT
14	26071	GLASS ASSEMBLY
15	25208	BOTTOM PAN
16	22778	CIRCULATING BLOWER ASSEMBLY
17	R8817	TERMINAL STRIP
18	R10338	PRESSURE SWITCH
19	25227	ELECTRICAL PARTS PLATE
20	R10775	CONTROL BOX
21	R8889	TRANSFORMER 12-24V
22	R8881	CAPACITOR 3uF
23	R8880	CAPACITOR 4uF
24	R8804	TRANSFORMER - 24V
25	R10079	CONDENSATE PUMP BOX
26	R8832	CONDENSATE PUMP
27	R10080	CONDENSATE PUMP LID
28	25226	CIRCUIT BOARD PLATE
29	R8809	DOUBLE ROCKER SWITCH
30	R8840	WIRE HARNESS ASSEMBLY WITH ECONOMY SWITCH
31	R8904	CIRCUIT BOARD
32	26083	FRONT BURNER ASSEMBLY
33	26082	BACK BURNER ASSEMBLY
34	R11012	ORIFICE HOLDER
35	22865	HOT SURFACE IGNITOR (2 REQUIRED)
36	R10967	FLAME SENSOR (2 REQUIRED)
37	25210	AIR DUCT CHANNEL
38	25214	PANEL - RIGHT SIDE
39	25221	FIREBOX BASE
40	25222	DOOR BRACKET (2 REQUIRED)
41	R4053	DOOR CLAMP (2 REQUIRED)
42	25225	LATCH BRACKET (2 REQUIRED)
43	25215	BAFFLE
44	26080	FIREBOX ASSEMBLY
45	26087	SUMP ASSEMBLY
46	R8799	INDUCER ASSEMBLY
47	26089	FLEX PIPE ASSEMBLY
48	26090	FIN TUBE ASSEMBLY

FIREPLACE MANTIS PARTS LIST

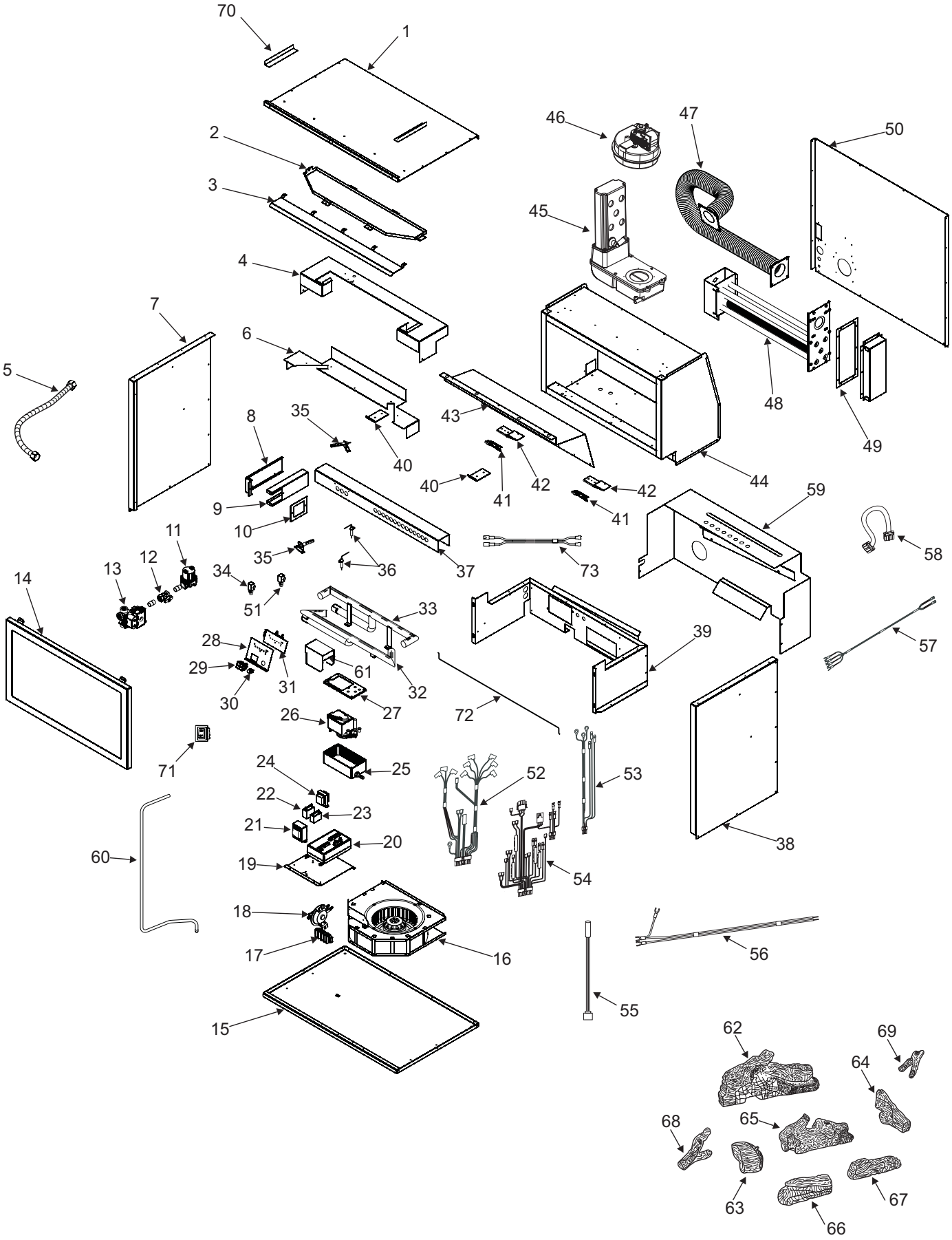
⚠ WARNING

Use only manufacturer's replacement parts. Use of any other parts could cause injury or death.

INDEX NO.	PART NO.	DESCRIPTION
49	R8811	INLET HEADER GASKET
50	25204	PANEL - BACK
51	R10796	ORIFICE HOLDER
52	R10182	WIRE HARNESS - 120V
53	R10190	WIRE HARNESS - 12V SMALL
54	R10183	WIRE HARNESS - 12V LARGE
55	R8814	THERMISTER
56	R9487	REMOTE WIRE ASSEMBLY
57	R8872	WIRE HARNESS
58	R10759	RIBBON CABLE
59	24831	REAR HEAT SHIELD ASSEMBLY
60	22642	CONDENSATE PUMP TUBE
61	25325	CONDENSATE PUMP COVER
	R10077	LOG SET (INCLUDES 62 - 69
62	R10376	REAR LOG
63	R10381	LEFT LOG
64	R10380	RIGHT LOG
65	R10379	MIDDLE LOG
66	R10378	FRONT LEFT LOG
67	R10377	FRONT RIGHT LOG
68	R10383	LEFT TOP LOG
69	R10382	RIGHT TOP LOG

INDEX NO.	PART NO.	DESCRIPTION
70	25216	BRACKET, STANDOFF (2 REQUIRED)
71	R2522	MAIN POWER SWITCH
73	R10610	WIRE HARNESS, MAIN POWER SWITCH
NOT SHOWN	R10093	ORIFICE #47 - NAT
NOT SHOWN	R10094	ORIFICE #49 - NAT
NOT SHOWN	R10095	ORIFICE #1.2MM - LP
NOT SHOWN	R10096	ORIFICE #55 - LP
NOT SHOWN	26117	AIR DUCT CHANNEL COVER PLATE - NAT ONLY
NOT SHOWN	R10299	SWITCH, BIMETALIC
NOT SHOWN	R6389	THERMOSTAT

FIREPLACE MANTIS PARTS VIEW



WARRANTY TERMS

Empire Comfort Systems

Purchase Date: _____

Dealer Name/Phone: _____

Installer - Place Serial Number Sticker Here and Leave this Manual with the Consumer.

Empire Comfort Systems Inc. warrants this hearth product to be free from defects at the time of manufacture and for the periods specified below. Hearth products must be installed by a qualified technician and must be maintained and operated safely, in accordance with the instructions in the owner's manual. This warranty applies to the original purchaser only and is not transferable. All warranty repairs must be accomplished by a qualified gas appliance technician.

Limited Ten-Year Heat Exchanger Warranty
Empire promises to the owner that if the heat exchanger (see parts list) fails because of defective workmanship or material within ten years from the date of purchase, Empire will repair, or at Empire's option, replace the defective heat exchanger.

Limited Five-Year Parts Warranty
Should any part fail because of defective workmanship or material within five years from the date of purchase, Empire will repair or replace it, at Empire's option.

Limited Two-Year Labor Warranty
Within two years from the date of purchase, Empire will pay reasonable labor to have that defect repaired or replaced at Empire's option. All labor must be accomplished by a qualified gas appliance technician.

Duties Of The Owner
The appliance must be installed by a qualified installer and operated in accordance with the written instructions furnished with the appliance.
Ready access to the appliance for service is the responsibility of the owner.
Travel, diagnostic costs and freight charges on warranted parts to and from the factory is the responsibility of the owner.
A bill of sale, cancelled check, or payment record should be kept to verify purchase date and establish warranty period.

What Is Not Covered
This warranty does not cover damages that might result from the use, misuse, or improper installation of this appliance.
This warranty does not cover claims that do not involve defective workmanship or materials.
This warranty does not cover unauthorized service or parts replacements will not be covered.

How To Get Service
To make a claim under this warranty, please have your receipt available and contact your installing dealer. Provide the dealer with the model number, serial number, type of gas and purchase verification. The installing dealer is responsible for providing service and will contact the factory to initiate any warranted parts replacements. Empire will make replacement parts available at the factory. Shipping expenses are not covered.

If, after contacting your Empire dealer, service received has not been satisfactory, contact: Consumer Relations Department, Empire Comfort Systems Inc., P.O. Box 529, Belleville, Illinois 62222, or send an e-mail to info@empirecomfort.com with "Consumer Relations" in the subject line.

Your Rights Under State Law
This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Empire Comfort Systems Inc.
918 Freeburg Ave. Belleville, IL 62220

If you have a general question about our products, please e-mail us at info@empirecomfort.com.
If you have a service or repair question, please contact your dealer.

www.empirecomfort.com